INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

August 16, 2018

VIA ELECTRONIC MAIL

The Honorable James Brainard, Mayor
City of Carmel
One Civic Square
Carmel, Indiana, 46032

Dear Mayor Brainard:

Re: Final NPDES Permit No. IN0022497
City of Carmel Wastewater Treatment Plant
Hamilton County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit has been processed in accordance with Sections 402 and 405 of the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251, et seq.), and IDEM's permitting authority under IC 13-15. The enclosed NPDES permit covers your discharges to the West Fork of the White River. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires monthly reporting of several effluent parameters. You are required to submit both federal discharge monitoring reports (DMRs) and state Monthly Reports of Operation (MROs) on a routine basis. The MRO form is available on the internet at the following web site: http://www.in.gov/idem/cleanwater/2396.htm.

Once you are on this page, select the "IDEM Forms" page and locate the version of the MRO applicable to your plant under the "Wastewater Facilities" heading. We recommend selecting the "XLS" version as it will complete all of the calculations on the data entered.

All NPDES permit holders are required to submit their monitoring data to IDEM using NetDMR. Please contact Rose McDaniel at (317) 233-2653 or Helen Demmings (317) 232-8815 if you would like more information on NetDMR. Information is also available on our website at http://IN.gov/idem/cleanwater/2422.htm.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may bring criminal or civil penalties upon the permittee. (See Part II.A.1 and II.A.11 of this permit). It is very important that your office and treatment operator understand this part of the permit.

Please note that this permit issuance can be appealed. An appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed public notice. The appeal must be initiated by filing a petition for administrative review with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the emailing of an electronic copy of this letter or within eighteen (18) days of the mailing of this letter by filing at the following addresses:

Director
Office of Environmental Adjudication
Indiana Government Center North
Room N103
100 North Senate Avenue
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
Room 1301
100 North Senate Avenue
Indianapolis, Indiana 46204

Please reference the "Post Public Notice Addendum," on the final pages of the Fact Sheet, for this Office's response to comments submitted during the public notice period.

The permit should be read and studied. It requires certain action at specific times by you, the discharger, or your authorized representative. One copy of this permit is also being sent to your operator to be kept at the treatment facility. You may wish to call this permit to the attention of your consulting engineer and/or attorney.

If you have any questions concerning your NPDES permit, please contact Gabrielle Ghreichi at 317/234-1191 or at GGhreich@idem.IN.gov. More information on the appeal review process is available at the website for the Office of Environmental Adjudication at http://www.in.gov/oea.

Sincerely,

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

Enclosures
cc: Jordan Kleinsmith, Certified Operator, City of Carmel Utilities
John Duffy, Director of Utilities, City of Carmel
Tara Washington, Assistant Manager, City of Carmel Utilities
Edward Wolfe, City of Carmel Utilities
Craig Carter, City of Carmel Utilities
Brian W. Houghton, P.E., Jones & Henry Engineers, Ltd.

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), Title 13 of the Indiana Code, and regulations adopted by the Water Pollution Control Board, the Indiana Department of Environmental Management (IDEM) is issuing this permit to the

CITY OF CARMEL

hereinafter referred to as "the permittee." The permittee owns and/or operates the **City of Carmel Wastewater Treatment Plant,** a major municipal wastewater treatment plant located at 9609 Hazel Dell Parkway, Carmel, Indiana, Hamilton County. The permittee is hereby authorized to discharge from the outfalls identified in Part I of this permit to receiving waters named the West Fork of the White River in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in the permit. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: December 1, 2018.

Expiration Date: November 30, 2023.

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and application forms as are required by the Indiana Department of Environmental Management. The application shall be submitted to IDEM at least 180 days prior to the expiration date of this permit, unless a later date is allowed by the Commissioner in accordance with 327 IAC 5-3-2 and Part II.A.4 of this permit.

Issued on August 16, 2018, for the Indiana Department of Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

TREATMENT FACILITY DESCRIPTION

The permittee currently operates a Class IV, 12.0 MGD conventional activated sludge type treatment facility consisting of an influent flow meter, two (2) step screens, two (2) grit removal chambers, eight (8) primary clarifiers, ten (10) aeration tanks, six (6) secondary clarifiers, ultraviolet light disinfection, and an effluent flow meter. Waste-activated sludge and primary sludge pass through two (2) gravity belt-thickeners, a mixing tank, and a bio-pasteurization system. Then, the sludge is pumped to either of the two (2) primary anaerobic digesters, followed by two (2) secondary anaerobic digesters. After digestion, two (2) centrifuges are used for de-watering. Final sludge is stored in an open storage building or in a solar-drying building. Final sludge is distributed to local farmers as a Class A biosolid, in accordance with the permittee's Biosolids Marketing & Distribution Permit (INLA000730). If the final sludge only meets the Class B biosolids criteria, the final sludge is land applied under the permittee's Biosolids Land Application Permit (INLA000216).

The collection system is comprised of 100% separate sanitary sewers by design with one (1) Sanitary Sewer Overflow (SSO) point, identified and prohibited in Attachment A of this permit. The City of Carmel Wastewater Treatment Plant serves the following areas: The City of Carmel, portions of the Clay Township Regional Waste District, and portions of the Town of Westfield.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.B of this permit for additional monitoring and reporting requirements.

1. Beginning on the effective date of this permit, the permittee is authorized to discharge from Outfall 001, which is located at Latitude: 39° 55' 45" N, Longitude: 86° 04' 35" W. The discharge is subject to the following requirements:

TABLE 1

	Quantity or Loading			**Quality or Concentration**			**Monitoring Requirements**	
Parameter	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	----	MGD	----	----	----	Daily	24-Hr. Total
$CBOD_5$								
Summer [2]	1,602	2,403	lbs/day	16	24	mg/l	Daily	24-Hr. Composite
Winter [3]	2,504	4,006	lbs/day	25	40	mg/l	Daily	24-Hr. Composite
TSS								
Summer [2]	2,003	3,004	lbs/day	20	30	mg/l	Daily	24-Hr. Composite
Winter [3]	3,004	4,506	lbs/day	30	45	mg/l	Daily	24-Hr. Composite
Ammonia-nitrogen								
Summer [2]	150	225	lbs/day	1.5	2.25	mg/l	Daily	24-Hr. Composite
Winter [3]	300	451	lbs/day	3.0	4.5	mg/l	Daily	24-Hr. Composite
Phosphorus								
Interim [4]	----	----	----	Report	----	mg/l	Monthly	24-Hr. Composite
Final [4]	----	----	----	1.0	----	mg/l	Daily	24-Hr. Composite

TABLE 2

	Quality or Concentration				Monitoring Requirements	
Parameter	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [5]	6.0	----	9.0	s.u.	Daily	Grab
Dissolved Oxygen [6]						
Summer [2]	5.0	----	----	mg/l	Daily	4 Grabs/24-Hrs.
Winter [3]	4.0	----	----	mg/l	Daily	4 Grabs/24-Hrs.
E. coli [7]	----	125 [8]	235 [9]	cfu/100 ml	Daily	Grab

[1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once every twelve months.

[2] Summer limitations apply from May 1 through November 30 of each year.

[3] Winter limitations apply from December 1 through April 30 of each year.

[4] Refer to the Schedule of Compliance in Part I.D of this permit.

[5] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Report of Operation forms.

[6] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the four (4) daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals.

[7] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (fecal coliform or *E. coli*) do not occur from April 1 through October 31, annually.

The *Escherichia coli (E. coli)* limitations apply from April 1 through October 31 annually. IDEM has specified the following methods as allowable for the detection and enumeration of *Escherichia coli (E. coli)*:

1. Coliscan MF® Method
2. EPA Method 1603 Modified m-TEC agar
3. mColi Blue-24®
4. Colilert® MPN Method or Colilert-18® MPN Method

[8] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-

five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.

[9] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.

2. Minimum Narrative Limitations

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

a. including the mixing zone, to contain substances, materials, floating debris, oil, scum or other pollutants:

(1) that will settle to form putrescent or otherwise objectionable deposits;

(2) that are in amounts sufficient to be unsightly or deleterious;

(3) that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

(4) which are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

(5) which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

b. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge flow and shall be taken at times which reflect the

full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Data on Plant Operation

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by this permit.

For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as incorporated by reference in 327 IAC 5-2-1.5. The permittee must monitor the influent and effluent $CBOD_5$ and TSS at least once per month and calculate the percent removal to ensure compliance with the required 85 percent removal. This information must be maintained on site and provided to this Office's staff upon request.

3. Monthly Reporting

The permittee shall submit accurate monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous monitoring period and shall be submitted no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the monitoring period in which the permit becomes effective. These reports shall include, but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Report of Operation (MRO). All reports shall be submitted electronically by using the NetDMR application, upon registration, receipt of the NetDMR Subscriber Agreement, and IDEM approval of the proposed NetDMR Signatory. Access the NetDMR website (for initial registration and DMR/MMR submittal) via CDX at: https://cdx.epa.gov/. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

A calendar week will begin on Sunday and end on Saturday. Partial weeks consisting of four or more days at the end of any month will include the remaining days of the week, which occur in the following month in order to calculate a consecutive seven-day average. This value will be reported as a weekly average or seven-day average on the MRO for the month containing the partial week of four or more days. Partial calendar weeks consisting of less than four days at the end of any month will be carried forward to the succeeding month and reported as a weekly average or a seven-day average for the calendar week that ends with the first Saturday of that month.

4. Definitions

a. Calculation of Averages

Pursuant to 327 IAC 5-2-11(a)(5), the calculation of the average of discharge data shall be determined as follows: For all parameters except fecal coliform and *E. coli*, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified in this permit. For fecal coliform, the monthly average discharge and weekly average discharge, as concentrations, shall be calculated as a geometric mean. For *E. coli*, the monthly average discharge, as a concentration, shall be calculated as a geometric mean.

b. Terms

(1) "Monthly Average" -The monthly average discharge means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month. The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

(2) "Weekly Average" - The weekly average discharge means the total mass or flow weighted concentration of all daily discharges during any calendar week for which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week.

(3) "Daily Maximum" - The daily maximum discharge limitation is the maximum allowable daily discharge for any calendar day. The "daily discharge" means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that represents the calendar day for purposes of sampling.

(4) "24-hour Composite" - A 24-hour composite sample consists of at least four (4) individual flow-proportioned samples of wastewater, taken by the grab sample method over equal time intervals during the period of operator attendance or by an automatic sampler, and which are combined prior to analysis. A flow proportioned composite sample shall be obtained by:

(a) recording the discharge flow rate at the time each individual sample is taken,

(b) adding together the discharge flow rates recorded from each individual sampling time to formulate the "total flow value,"

(c) dividing the discharge flow rate of each individual sampling time by the total flow value to determine its percentage of the total flow value, and

(d) multiplying the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.

Alternatively, a 24-hour composite sample may be obtained by an automatic sampler on an equal time interval basis over a twenty-four hour period provided that a minimum of 24 samples are taken and combined prior to analysis. The samples do not need to be flow-proportioned if the permittee collects samples in this manner.

(5) $CBOD_5$: Five-day Carbonaceous Biochemical Oxygen Demand

(6) TSS: Total Suspended Solids

(7) *E. coli*: Escherichia coli bacteria

(8) The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

(9) The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

(10) Limit of Detection or LOD is defined as a measurement of the concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the Method Detection Level or MDL.

(11) Limit of Quantitation or LOQ is defined as a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also called the limit of quantification or quantification level.

(12) Method Detection Level or MDL is defined as the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by the procedure set forth in 40 CFR Part 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

5. Test Procedures

The analytical and sampling methods used shall conform to the current version of 40 CFR, Part 136, unless otherwise specified within this permit. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the State agency and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater
18^{th}, 19^{th}, or 20^{th} Editions, 1992, 1995 or 1998 American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis
1972 American Society for Testing and Materials, Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes
June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

6. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record and maintain records of all monitoring information on activities under this permit, including the following information:

a. The exact place, date, and time of sampling or measurements;

b. The person(s) who performed the sampling or measurements;

c. The dates and times the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses and measurements.

7. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of

the values required in the Monthly Discharge Monitoring Report and on the Monthly Report of Operation form. Such increased frequency shall also be indicated on these forms. Any such additional monitoring data which indicates a violation of a permit limitation shall be followed up by the permittee, whenever feasible, with a monitoring sample obtained and analyzed pursuant to approved analytical methods. The results of the follow-up sample shall be reported to the Commissioner in the Monthly Discharge Monitoring Report.

8. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three-year period shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

C. REOPENING CLAUSES

In addition to the reopening clause provisions cited at 327 IAC 5-2-16, the following reopening clauses are incorporated into this permit:

1. This permit may be modified or, alternately, revoked and reissued after public notice and opportunity for hearing to incorporate effluent limitations reflecting the results of a wasteload allocation if the Department of Environmental Management determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.

2. This permit may be modified due to a change in sludge disposal standards pursuant to Section 405(d) of the Clean Water Act, if the standards when promulgated contain different conditions, are otherwise more stringent, or control pollutants not addressed by this permit.

3. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

    a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

b. controls any pollutant not limited in the permit.

4. This permit may be modified or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate monitoring requirements and effluent limitations for Whole Effluent Toxicity (WET) if the Department of Environmental Management determines that such monitoring requirements and effluent limitations are needed to assure that State Water Quality standards are met in the receiving streams.

5. This permit may be modified or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate monitoring requirements and effluent limitations for chloride, cadmium, total chromium, copper, lead, nickel, silver, zinc and/or total cyanide if the Department of Environmental Management determines that such monitoring requirements and effluent limitations are needed to assure that State Water Quality standards are met in the receiving streams.

D. SCHEDULE OF COMPLIANCE FOR TOTAL PHOSPHORUS

The permittee shall achieve compliance with the final effluent limitations in accordance with the following schedule:

1. The permittee shall submit a written progress report to the Compliance Data Section, Office of Water Quality (OWQ) six (6) months from the effective date of the permit. The progress report shall include, among other items, a description of the method(s) selected for meeting the final requirements for total phosphorus. The final effluent limitations for total phosphorus are deferred for the term of this compliance schedule, unless the final effluent limitations can be met at an earlier date. The permittee shall notify the Compliance Data Section of OWQ as soon as the final effluent limitations for total phosphorus can be met. Upon receipt of such notification by OWQ, the final limitations for total phosphorus will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of effluent is required during the interim period on a monthly basis.

2. If construction is required, a construction permit application (including Plans and Specifications) for complying with final requirements shall be submitted (if required by 327 IAC 3-2) within fourteen (14) months from the effective date of the permit. The permittee shall submit a written progress report to the Compliance Data Section, Office of Water Quality at this time.

3. Initiation of construction, if necessary, shall commence not later than the twenty-three (23) months from the effective date of the permit. The permittee shall submit a written progress report to the Compliance Data Section, Office of Water Quality at this time.

4. The permittee shall submit a written progress report to the Compliance Data Section, Office of Water Quality thirty-two (32) months from the effective date of the permit.

5. Construction shall be completed within thirty-five (35) months from the effective date of the permit. The permittee shall submit a written progress report to the Compliance Data Section, Office of Water Quality when construction has been completed.

6. The permittee shall comply with all final requirements no later than thirty-six (36) months from the effective date of the permit.

7. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Data Section of the Office of Water Quality stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Provide Information

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the facility that:

a. could significantly change the nature of, or increase the quantity of, pollutants discharged; or

b. the Commissioner may request to evaluate whether such cause exists.

In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit a renewal of this permit in accordance with 327 IAC 5-3-2(a)(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or

operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. The application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if:

a. permission is requested in writing before such deadline;

b. IDEM grants permission to submit the application after the deadline; and

c. the application is received no later than the permit expiration date.

As required under 327 IAC 5-2-3(g)(1) and (2), POTWs with design influent flows equal to or greater than one million (1,000,000) gallons per day and POTWs with an approved pretreatment program or that are required to develop a pretreatment program, will be required to provide the results of whole effluent toxicity testing as part of their NPDES renewal application.

5. Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date.

b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner.

c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.

d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and

to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

6. Permit Actions

In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge controlled by the permittee (e.g., plant closure, termination of the discharge by connecting to a POTW, a change in state law or information indicating the discharge poses a substantial threat to human health or welfare).

Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of, pollutants discharged; or

2. the commissioner may request to evaluate whether such cause exists.

7. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or an invasion of rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the

discharge or for the construction or operation of the facility from which a discharge is made.

8. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

9. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

10. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

11. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Environmental Rules Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation.

Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

Pursuant to IC 13-30-10-1.5(e), a person who willfully or negligently violates any NPDES permit condition or filing requirement, or any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, commits a Class A misdemeanor.

Pursuant to IC 13-30-10-1.5(i), an offense under IC 13-30-10-1.5(e) is a Level 4 felony if the person knowingly commits the offense or knows that the commission of the offense places another person in imminent danger of death or serious bodily injury. An offense under IC 13-30-10-1.5(e) is a Level 3 felony if it results in serious bodily injury to any person, and a Level 2 felony if it results in death to any person.

Pursuant to IC 13-30-10-1.5(g), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-8 commits a Class B misdemeanor.

Pursuant to IC 13-30-10-1.5(h), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-9, IC 13-18-10, or IC 13-18-10.5 commits a Class C misdemeanor.

Pursuant to IC 13-30-10-1, a person who knowingly or intentionally makes any false material statement, representation, or certification in any NPDES form, notice, or report commits a Class B misdemeanor.

12. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(10), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10-1, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record, (b) tampers with, falsifies, or renders inaccurate or inoperative a recording or monitoring device or method, including the data gathered from the device or method, or (c) makes a false material statement or representation in any label, manifest, record, report, or other document; all required to be maintained under the terms of a permit issued by the department commits a Class B misdemeanor.

13. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

14. Operator Certification

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7. The permittee shall designate one (1) person as the certified operator with complete responsibility for the proper operations of the wastewater facility.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified

operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), "responsible charge" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

15. Construction Permit

Except in accordance with 327 IAC 3, the permittee shall not construct, install, or modify any water pollution treatment/control facility as defined in 327 IAC 3-1-2(24). Upon completion of any construction, the permittee must notify the Compliance Data Section of the Office of Water Quality in writing.

16. Inspection and Entry

In accordance with 327 IAC 5-2-8(8), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a point source, regulated facility, or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

17. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.

B. MANAGEMENT REQUIREMENTS

1. Facility Operation, Maintenance and Quality Control

a. In accordance with 327 IAC 5-2-8(9), the permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances, i.e., equipment used for measuring and determining compliance) for collection and treatment that are:

(1) installed or used by the permittee; and

(2) necessary for achieving compliance with the terms and conditions of the permit.

Neither 327 IAC 5-2-8(9), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit. This provision also does not prohibit taking redundant treatment units off line, provided that the permittee is at all times: maintaining in good working order and efficiently operating all facilities and systems; providing best quality effluent; and achieving compliance with the terms and conditions of the permit.

b. The permittee shall operate the permitted facility in a manner which will minimize upsets and discharges of excessive pollutants. The permittee shall properly remove and dispose of excessive solids and sludges.

c. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

d. Maintenance of all waste collection, control, treatment, and disposal facilities shall be conducted in a manner that complies with the bypass provisions set forth below.

e. Pursuant to 327 IAC 5-22-10(1), the permittee is responsible for providing adequate funding for and oversight of the wastewater treatment plant and collection system to ensure proper operation, maintenance, management, and supervision.

f. Any extensions to the sewer system must continue to be constructed on a separated basis. Plans and specifications, when required, for extension of the sanitary system must be submitted to the Facility Construction and Engineering Support Section, Office of Water Quality in accordance with 327 IAC 3-2-2. There shall also be an ongoing preventative maintenance program for the sanitary sewer system.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(12):

a. Terms as defined in 327 IAC 5-2-8(12)(A):

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses, as defined above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.B.2.d; or

(4) The condition under Part II.B.2.f below is met.

c. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

d. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) The permittee shall orally report an unanticipated bypass within 24 hours of becoming aware of the bypass event. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance (i.e. the bypass) and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event. If a complete email submittal is sent within 24 hours of the time that the permittee became aware of the unanticipated bypass event, then that report will satisfy both the oral and written reporting requirement.

e. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.b. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

f. The permittee may allow any bypass to occur that does not cause a violation of the effluent limitations in the permit, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of Part II.B.2.b.,d and e of this permit.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(13):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this subsection, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures;

(3) The permittee complied with any remedial measures required under "Duty to Mitigate", Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Incident Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal.

a. Collected screenings, slurries, sludges, and other such pollutants shall be disposed of in accordance with provisions set forth in 329 IAC 10, 327 IAC 6.1, or another method approved by the Commissioner.

b. The permittee shall comply with existing federal regulations governing solids disposal, and with applicable provisions of 40 CFR Part 503, the federal sludge disposal regulation standards.

c. The permittee shall notify the Commissioner prior to any changes in sludge use or disposal practices.

d. The permittee shall maintain records to demonstrate its compliance with the above disposal requirements.

5. Power Failures

In accordance with 327 IAC 5-2-10 and 327 IAC 5-2-8(14) in order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, or

b. shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit.

6. Unauthorized Discharge

Any overflow or release of sanitary wastewater from the wastewater treatment facilities or collection system that results in a discharge to waters of the state and is not specifically authorized by this permit is expressly prohibited. These discharges are subject to the reporting requirements in Part II.C.3 of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(11)(F) and 5-2-16(d), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility (which includes any point source) that could significantly change the nature of, or increase the quantity of, pollutants discharged. Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited. Material and substantial alterations or additions to the permittee's operation that were not covered in the permit (e.g., production changes, relocation or combination of discharge points, changes in the nature or mix of products produced) are also cause for modification of the permit. However those alterations which constitute total replacement of the process or the production equipment causing the discharge converts it into a new source, which requires the submittal of a new NPDES application.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(10), 327 IAC 5-2-13, and 327 IAC 5-2-15, monitoring results shall be reported at the intervals and in the form specified in "Data On Plant Operation", Part I.B.2.

3. Incident Reporting Requirements

Pursuant to 327 IAC 5-2-8(11) and 327 IAC 5-1-3, the permittee shall orally report to the Commissioner information on the following incidents within 24 hours from the time permittee becomes aware of such occurrence. If the incident meets the emergency criteria of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1),

when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any emergency incident which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the incident by calling 317/233-7745 (888/233-7745 toll free in Indiana). This number should only be called when reporting these emergency events;

c. Any upset (as defined in Part II.B.3 above) that exceeds any technology-based effluent limitations in the permit;

d. Any release, including basement backups, from the sanitary sewer system (including satellite sewer systems operated or maintained by the permittee) not specifically authorized by this permit. Reporting of known releases from private laterals not caused by a problem in the sewer system owned or operated by the permittee is not required under Part II.C.3, however, documentation of such events must be maintained by the permittee and available for review by IDEM staff; or

e. Any discharge from any outfall from which discharge is explicitly prohibited by this permit as well as any discharge from any other outfall or point not listed in this permit.

The permittee can make the oral reports by calling 317/232-8670 during regular business hours and asking for the Compliance Data Section, or by calling (317/233-7745) (888/233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the event and its cause; the period of occurrence, including exact dates and times, and, if the event has not concluded, the anticipated time it is expected to continue; and steps taken or planned to reduce, mitigate and eliminate the event and steps taken or planned to prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Overflow/Incident Report" (State Form 48373) or a "Noncompliance Notification Report" (State Form 54215), whichever is appropriate, to IDEM at wwreports@idem.IN.gov. If a complete submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then that report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(11)(D), the permittee shall report any instance of noncompliance not reported under the "Incident Reporting Requirements" in Part II.C.3 at the time the pertinent Discharge Monitoring Report is submitted. The written submission shall contain: a description of the noncompliance and its

cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent the noncompliance.

5. Other Information

Pursuant to 327 IAC 5-2-8(11)(E), where the permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or in any report to the Commissioner, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(15):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a principal executive defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making functions for the corporation or the manager of one or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a federal, state, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Electronic Signatures. If documents described in this section are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

d. Certification. Any person signing a document identified under paragraphs a and b of this section, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(15) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Progress Reports

In accordance with 327 IAC 5-2-8(11)(A), reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

10. Advance Notice for Planned Changes

In accordance with 327 IAC 5-2-8(11)(B), the permittee shall give advance notice to IDEM of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements.

11. Additional Requirements for POTWs and/or Treatment Works Treating Domestic Sewage

a. All POTWs shall identify, in terms of character and volume of pollutants, any significant indirect discharges into the POTW which are subject to pretreatment standards under section 307(b) and 307 (c) of the CWA.

b. All POTWs must provide adequate notice to the Commissioner of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to section 301 or 306 of the CWA if it were directly discharging those pollutants.

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by any source where such change would render the source subject to pretreatment standards under section 307(b) or 307(c) of the CWA or would result in a modified application of such standards.

As used in this clause, "adequate notice" includes information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW.

c. This permit incorporates any conditions imposed in grants made by the U.S. EPA and/or IDEM to a POTW pursuant to Sections 201 and 204 of the Clean Water Act, that are reasonably necessary for the achievement of effluent limitations required by Section 301 of the Clean Water Act.

d. This permit incorporates any requirements of Section 405 of the Clean Water Act governing the disposal of sewage sludge from POTWs or any other treatment works treating domestic sewage for any use for which rules have been established in accordance with any applicable rules.

e. POTWs must develop and submit to the Commissioner a POTW pretreatment program when required by 40 CFR 403 and 327 IAC 5-19-1, in order to assure compliance by industrial users of the POTW with applicable pretreatment standards established under Sections 307(b) and 307(c) of the Clean Water Act. The pretreatment program shall meet the criteria of 327 IAC 5-19-3 and, once approved, shall be incorporated into the POTW's NPDES permit.

12. Electronic Reporting

IDEM is currently developing the technology and infrastructure necessary to allow compliance with the EPA Phase 2 e-reporting requirements per 40 CFR 127.16 and to allow electronic reporting of applications, notices, plans, reports, and other information not covered by the federal e-reporting regulations.

IDEM will notify the permittee when IDEM's e-reporting system is ready for use for one or more applications, notices, plans, reports, or other information. This IDEM notice will identify the specific applications, notices, plans, reports, or other information that are to be submitted electronically and the permittee will be required to use the IDEM electronic reporting system to submit the identified application(s), notice(s), plan(s), report(s), or other information.

See Part I.B.3., Monthly Reporting, for the electronic reporting requirements for the monthly monitoring reports such as the Discharge Monitoring Report (DMR), Monthly Report of Operation (MRO) and Monthly Monitoring Report (MMR).

D. ADDRESSES

1. Municipal NPDES Permits Section

Indiana Department of Environmental Management
Office of Water Quality – Rm 1255
Municipal NPDES Permits Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Municipal NPDES Permits Section:

a. NPDES permit applications (new, renewal or modifications) with fee

b. Preliminary Effluent Limits request letters

c. Comment letters pertaining to draft NPDES permits

d. NPDES permit transfer of ownership requests

e. NPDES permit termination requests

f. Notifications of substantial changes to a treatment facility, including new industrial sources

g. Combined Sewer Overflow (CSO) Operational Plans

h. CSO Long Term Control Plans (LTCP)

i. Stream Reach Characterization and Evaluation Reports (SRCER)

2. Facility Construction and Engineering Support Section

Indiana Department of Environmental Management
Office of Water Quality – Rm 1255
Facility Construction and Engineering Support Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Facility Construction and Engineering Support Section:

a. Construction permit applications with fee

3. Compliance Data Section

Indiana Department of Environmental Management
Office of Water Quality – Rm 1255
Compliance Data Section
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Compliance Data Section:

a. Discharge Monitoring Reports (DMRs)

b. Monthly Reports of Operation (MROs)

c. Monthly Monitoring Reports (MMRs)

d. CSO MROs

e. Gauging station and flow meter calibration documentation

f. Compliance schedule progress reports

g. Completion of Construction notifications

h. Whole Effluent Toxicity Testing reports

i. Toxicity Reduction Evaluation (TRE) plans and progress reports

j. Bypass/Overflow Reports

k. Anticipated Bypass/Overflow Reports

l. Streamlined Mercury Variance Annual Reports

4. Pretreatment Group

Indiana Department of Environmental Management
Office of Water Quality – Rm 1255
Compliance Data Section – Pretreatment Group
100 N. Senate Avenue
Indianapolis, Indiana 46204-2251

The following correspondence shall be sent to the Pretreatment Group:

a. Organic Pollutant Monitoring Reports

b. Significant Industrial User (SIU) Quarterly Noncompliance Reports

c. Pretreatment Program Annual Reports

d. Sewer Use Ordinances

e. Enforcement Response Plans (ERP)

f. Sludge analytical results

PART III

NON-DELEGATED PRETREATMENT PROGRAM REQUIREMENTS

A. DEFINITIONS

The definitions contained in 327 IAC 5-17 are incorporated herein. Such definitions include, but are not limited to, the following:

1. Control Authority ("CA")

   "Control authority" means the commissioner of the Indiana Department of Environmental Management.

2. Industrial User

   "Industrial user" means an indirect discharger.

3. Indirect Discharger

   "Indirect discharger" means a nondomestic discharger introducing pollutants into a POTW, regardless of whether the discharger is within the governmental jurisdiction of the permittee.

4. Interference

   (a) "Interference" means a discharge that, alone or in conjunction with a discharge or discharges from other sources inhibits or disrupts the:

   (1) treatment processes or operations;
   (2) sludge processes; or
   (3) selected sludge:
   (A) use; or
   (B) disposal methods;
   of a POTW.

   (b) The inhibition or disruption under subsection (a) must:
   (1) cause a violation of a requirement of the POTW's NPDES permit, including an increase in the magnitude or duration of a violation; or

   (2) prevent the use of the POTW's sewage sludge or its sludge disposal method selected in compliance with the following statutory provisions, regulations, or permits issued thereunder or more stringent state or local regulations:

   (A) Section 405 of the Clean Water Act (33 U.S.C. 1345).
   (B) The Solid Waste Disposal Act (SWDA) (42 U.S.C. 6901), including:

(i) Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA); and
(ii) the rules contained in a state sludge management plan prepared pursuant to Subtitle D of the SWDA (42 U.S.C. 6941).

(C) The Clean Air Act (42 U.S.C. 7401).
(D) The Toxic Substances Control Act (15 U.S.C. 2601).

5. Pass-through

"Pass through" means a discharge proceeding through a POTW into waters of the state in quantities or concentrations that, alone or in conjunction with a discharge or discharges from other sources, are a cause of a violation of any requirement of the POTW's NPDES permit, including an increase in the magnitude or duration of a violation.

6. Pretreatment requirements

"Pretreatment requirements" means any substantive or procedural requirement related to pretreatment, other than a pretreatment standard, imposed on an industrial user, including applicable local limits.

7. Pretreatment standards

"Pretreatment standards" means:

a. state pretreatment standards as established in 327 IAC 5-18-8;

b. pretreatment standards for prohibited discharges, as established in 327 IAC 5-18-2; and

c. national categorical pretreatment standards incorporated by reference in 327 IAC 5-18-10.

8. Publicly Owned Treatment Works ("POTW")

"Publicly Owned Treatment Works" means a treatment works owned by the State or a municipality, except that it does not include pipes, sewers or other conveyances not connected to a facility providing treatment. The term includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or compatible industrial wastes. The term also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW treatment plant. "POTW" also means the municipality that has jurisdiction over the indirect discharges to and the discharges from such treatment works.

9. Significant Industrial User ("SIU")

"Significant Industrial User" or "SIU" means the following:

a. Industrial users subject to categorical pretreatment standards under 327 IAC 5-18-10.

b. An industrial user that:

(1) discharges an average of twenty-five thousand (25,000) gallons per day or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) to the POTW;

(2) contributes a process wastestream that makes up five percent (5%) or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or

(3) is designated as a significant industrial user by the control authority on the basis that the industrial user has a reasonable potential to:

(A) adversely affect the POTW's operation;

(B) violate a pretreatment standard; or

(C) violate a requirement of 327 IAC 5-19-3.

c. The control authority may, on its own initiative or in response to a petition received from an industrial user or a POTW and in accordance with 327 IAC 5-19-3(6), determine that an industrial user is not a significant industrial user if it does not meet Part III.A.9.b.(3) of this permit.

B. PROGRAM DEVELOPMENT REQUIREMENTS

In accordance with 327 IAC 5-19-7, the permittee shall comply with the following pretreatment program requirements:

1. Within 30 days of the effective date of this permit, the permittee shall evaluate its sewer use ordinance to determine whether the following prohibitions, conditions, and requirements are included:

a. A user of the POTW, whether or not the user is subject to national categorical standards or state, local, or any other national pretreatment standard or requirement, shall not allow the introduction of the following into the POTW:

(1) A pollutant from any source of nondomestic wastewaters that could pass through or cause interference with the operation or performance of the POTW.

(2) A pollutant that could create a fire or explosion hazard in the POTW, including waste streams with a closed cup flashpoint of less than one hundred forty (140) degrees Fahrenheit (sixty (60) degrees Celsius) using the test methods in 40 CFR 261.21.

(3) A pollutant that could cause corrosive structural damage to the POTW, including a discharge with pH lower than five (5.0), unless the POTW is specifically designed to accommodate such a discharge.

(4) A solid or viscous pollutant in an amount that could cause obstruction to the flow in a sewer or other interference with the operation of the POTW.

(5) A pollutant, including an oxygen demanding pollutant (such as biochemical oxygen demand) released in a discharge at a flow rate or pollutant concentration that could cause interference in the POTW.

(6) Heat in an amount that could:

(A) inhibit biological activity in the POTW and result in interference or damage to the POTW; or

(B) exceed forty (40) degrees Celsius or one hundred four (104) degrees Fahrenheit at the POTW treatment plant unless the commissioner, upon request of the POTW, approves alternate temperature limits.

(7) Petroleum, oil, nonbiodegradable cutting oil, or products of mineral oil origin in an amount that could cause interference or pass through.

(8) A pollutant that could result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

(9) A trucked or hauled pollutant, except:

(A) with the permission of the POTW; and

(B) when introduced to the POTW at a discharge point designated by the POTW.

b. Specific limits on the prohibited substances listed in Part III.B.1.a above, such that the following are limited:

(1) a pollutant contributed by an industrial user that has caused or is likely to cause interference or pass through at the receiving POTW; and

(2) the recurrence of the contributed pollutant's affect on the POTW.

c. The legal authority to:

(1) develop and enforce specific limits on prohibited substances;

(2) enter the premises of any industrial user to conduct inspections, surveillance, record review, and/or monitoring, as necessary to determine compliance with the SUO and, if applicable, any effective industrial wastewater pretreatment permit;

(3) accept or deny any new or increased discharges from any indirect discharger;

(4) immediately halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of the public, the environment, and/or which threatens to interfere with the operation of the POTW;

(5) require compliance with all applicable pretreatment standards and requirements by indirect dischargers;

(6) Impose fees, if necessary, to offset the cost incurred by the permittee for administering the pretreatment program requirements established in Part III of this permit;

(7) Impose a fine of not more than $2,500 per day, per violation for a first violation nor more than $7,500 per day, per violation for subsequent violations, in accordance with IC 36-1-3-8(a)(10)(B).

2. Within 90 days of the effective date of this permit, the permittee shall submit to the IDEM Office of Water Quality Pretreatment Group, either:

   a. A copy of the existing SUO, highlighting where the requirements listed in Part III.B.1 are located, and a statement certifying that the evaluation required pursuant to Part III.B.1 was conducted and that the SUO contains the requirements listed in Part III.B.1; or

   b. A copy of the existing SUO, a statement certifying that the evaluation required pursuant to Part III.B.1 was conducted, a description of the requirements listed in Part III.B.1 that are not contained in the existing SUO, and proposed modifications to the SUO that will ensure that all requirements listed in Part III.B.1 are contained in the SUO.

3. In the event that proposed modifications to the SUO submitted pursuant to Part III.B.2.b of this permit are determined to be deficient by IDEM, the permittee shall, within 30 days of receipt of written notice of the deficiencies, correct the deficiencies and resubmit the proposed modifications to the SUO to IDEM.

4. The permittee shall adopt the proposed modifications to the SUO, as approved by IDEM, within 120 days of receipt of written approval by IDEM.

5. In accordance with 327 IAC 5-18-2(b), the permittee shall, in the event that proposed modifications to the SUO pertain to the development and enforcement of specific effluent limits, provide individual notice, in writing, to persons or groups that have requested to

be notified and given an opportunity to comment about the development and enforcement of specific effluent limits.

6. The permittee shall provide sufficient resources and qualified personnel to implement the pretreatment program requirements contained in Part III of this permit.

7. The permittee shall submit any significant proposed program modifications to IDEM for approval. A significant modification shall include, but not be limited to, a change in the local limitations contained in the SUO or a change in the industrial survey.

C. PROGRAM IMPLEMENTATION REQUIREMENTS

1. The permittee shall implement and enforce its SUO.

2. Upon the effective date of this permit, the permittee shall implement a program of monitoring the discharge from all SIU's, in accordance with the following minimum requirements:

a The permittee shall, no less than twice per calendar year, measure the volume of flow and sample and analyze the discharge from each SIU for all parameters contained in the industrial wastewater pretreatment (IWP) permit issued to the SIU by the CA, with the exception of Total Toxic Organics (TTOs), which shall be sampled and analyzed no less than once per calendar year, if contained in the IWP permit.

b. The permittee shall, for each parameter, including flow, utilize the sample type (e.g. 24- hour composite or grab) specified in the IWP permit issued by the CA.

c. The permittee shall collect samples at the sample location specified in the IWP Permit issued by the CA.

d. The permittee shall utilize the analytical methods contained in the IWP Permit issued by the CA.

e. The permittee shall sample and analyze the discharge from any IU, including an SIU with an IWP permit issued by the CA, for any parameter, as necessary to:

(1) achieve and/or maintain compliance with the requirements of this NPDES permit; and/or

(2) determine compliance with the requirements of the permittee's SUO.

f. The permittee shall, in accordance with Part III.C.4 of this permit, record and maintain all sampling and analytical data at the permitted facility.

3. Upon the effective date of this permit, the permittee shall implement a program of inspecting all SIU's, in accordance with the following minimum requirements:

a. The permittee shall, no less than once annually, inspect each SIU.

b. The permittee shall, during each inspection conducted pursuant to Part III.C.3.a, evaluate areas including, but not limited to, the following:

(1) pretreatment system(s);

(2) spill reporting and response procedures;

(3) sampling location; and

(4) disposal of sludge and other waste streams not regulated by the IWP permit issued by the CA.

c. The permittee shall inspect any IU, including an IU with an IWP permit issued by the CA, as necessary to:

(1) achieve and/or maintain compliance with the requirements of this NPDES permit; and/or

(2) determine compliance with the requirements of the permittee's SUO.

d. The permittee shall, for each inspection conducted pursuant to Part III.C.3.a, complete a report, utilizing an inspection report form that is at least equivalent to the form that is available from the IDEM Pretreatment Group.

e. The permittee shall, in accordance with Part III.C.4 of this permit, maintain at the permitted facility, copies of all inspection reports.

4. The permittee shall establish a file for each SIU that includes, but is not necessarily limited to:

a. A copy of the IWP permit issued by the CA;

b. Information and data pertaining to and resulting from the sampling and analysis required pursuant to Part III.C.2 of this permit. Such information and data shall, for each sample or measurement taken, include, but not necessarily be limited to:

(1) the date, exact place and time of sampling or measurement;

(2) the name of the person(s) who performed the sampling or measurement;

(3) the sample type utilized;

(4) the date(s) and time(s) analyses were performed;

(5) the analytical techniques or methods used; and

(6) the results of such measurements and analyses.

c. Copies of all inspection reports required pursuant to Part III.C.3 of this permit and;

d. Copies of all documents (including correspondence and discharge monitoring reports) relating to the SIU and/or the IWP permit issued by the CA.

5. The permittee shall retain, at the wastewater treatment plant, all records required pursuant to Part III.C.4 of this permit, for a minimum of three (3) years and shall make such records available for inspection and copying by IDEM or the U.S. EPA in accordance with 327 IAC 5-16-5(d). This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user or the operation of the pretreatment program or when requested by IDEM or the U.S. EPA.

6. For permittee's with an existing IDEM approved, ERP, the permittee shall submit a statement certifying that the ERP contains the requirements in a-d below and the permittee is implementing the ERP as approved to the IDEM Office of Water Quality Pretreatment Group within 90 days of the effective date of this permit.

The ERP shall contain, at the minimum, the following:

a. Categories of noncompliance, including a category for noncompliance considered to be "significant noncompliance" pursuant to 327 IAC 5-17-24;

b. A description of the types of violations included within each identified category of noncompliance;

c. A narrative description of each enforcement response;

d. An enforcement response guide which discusses the policies and criteria for evaluating violations and deciding the appropriate enforcement response.

7. In the event that the permittee is or should be aware of any activity or other circumstances, including wastewater treatment plant operational conditions, that the permittee has reason to believe may result in noncompliance with permit requirements, the permittee shall:

a. Immediately upon becoming aware of the activity or other circumstances, take all reasonable steps to cease or eliminate the activity or other circumstances;

b. Immediately upon becoming aware of the activity or other circumstances and continuing until such time as such activity or other circumstances cease or are eliminated, sample and analyze the wastewater entering the wastewater treatment plant, the wastewater from intermediate unit treatment processes, and the discharge from Outfall 001 for the pollutants identified in this NPDES permit as well as any pollutants suspected of interfering with WWTP operation;

c. Immediately upon becoming aware of the activity or other circumstances, notify the Compliance Data Section of the Office of Water Quality.

d. Immediately upon becoming aware of the activity or other circumstances, notify industrial users;

e. Immediately upon becoming aware of the activity or other circumstances, halt or prevent any trucked or hauled pollutants from being introduced into the POTW; and

f. Immediately upon becoming aware of the activity or other circumstances, halt or prevent the discharge from any indirect discharger, including any SIU, that the permittee has reason to believe may cause or contribute to interference with POTW operations or noncompliance with permit requirements.

8. The permittee shall notify the Office of Water Quality's Compliance Data Section of any violation by any indirect discharger that constitutes "significant noncompliance" pursuant to 327 IAC 5-17-24, within ten days of becoming aware of the significant noncompliance. The permittee shall provide a copy of all correspondence between any indirect discharger and the permittee to the IDEM Pretreatment Group regarding the significant noncompliance.

9. The permittee shall conduct an industrial survey at a minimum frequency of once every two (2) years. The industrial survey shall consist of, but not be limited to, requiring all industrial users (IU's), discharging wastewater other than sanitary, non-contact cooling water, boiler blowdown, or compressor condensate, to complete and return the survey form attached to this permit. The permittee shall utilize the completed survey forms to identify changes in operations and/or volume and nature of the discharge from each IU. The permittee shall include copies of the completed survey forms, along with a written description of the identified changes in operations and/or volume and nature of the discharge from each IU, with the Annual Report required pursuant to Part III.C.12.

10. The permittee shall notify the IDEM Pretreatment Group of any IU proposing a new discharge of process wastewater to the POTW that meets any of the following conditions:

    a. The industrial user is subject to categorical pretreatment standards under 327 IAC 5-18-10.

    b. The industrial user:

        (1) proposes to discharge an average of twenty-five thousand (25,000) gallons per day or more of process wastewater (excluding sanitary, noncontact cooling and boiler blowdown wastewater) to the POTW;

        (2) would contribute a process wastestream that makes up five percent (5%) or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or,

        (3) would have a reasonable potential to:

(A) adversely affect the POTW's operation;

(B) violate a pretreatment standard; or

(C) violate a requirement of 327 IAC 5-19-3.

The permittee shall not allow the proposed discharge until the industrial user obtains authorization from IDEM, and in the event that IDEM determines that a pretreatment permit or a pretreatment permit modification is necessary, the effective date of a pretreatment permit or pretreatment permit modification issued by IDEM.

11. The permittee shall sample and analyze the POTW's final sludge during the first and third calendar quarter or the second and fourth calendar quarter of each year for the following parameters: cadmium, copper, lead, mercury, molybdenum, nickel, and zinc. The permittee shall analyze the samples using 40 CFR 503, SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods."

    The permittee shall report the analytical results in mg/kg on a dry weight basis and shall report the results on the Non-Delegated Pretreatment Sludge Discharge Monitoring Report (DMR).

12. The permittee shall submit an annual report to the IDEM Pretreatment Group by April 1 of each year that includes:

    a A summary of the results of the industrial user survey conducted by the permittee, including a description of changes in operations of and/or discharges from each IU.

    b A copy of the completed industrial user survey forms.

    c. A summary of the compliance status of each IU for the prior calendar year;

    d. A summary of the IU inspections conducted by the permittee during the prior calendar year, including a description of any deficiencies or violations found during the inspections;

    e. A summary of the IU discharge monitoring conducted by the permittee during the prior calendar year, including analytical results that indicate a violation of an applicable IWP permit or the SUO;

    f. A summary of enforcement activities conducted by the permittee during the prior calendar year;

    g. An evaluation of the pretreatment program, including:

        (1) Program effectiveness as measured by the impact of discharges from IUs on the operation/ performance of the POTW.

(2) The adequacy of the local SUO and local limits;

(3) The adequacy of resources, including personnel, training, equipment, and laboratory;

(3) The need for program modifications to improve program effectiveness.

13. The permittee shall prohibit the introduction of trucked or hauled pollutants into the POTW, except under the following conditions:

a. The permittee has provided prior written permission to the person seeking to discharge the hauled or trucked pollutants into the POTW;

b. The person seeking to discharge the hauled or trucked pollutants into the POTW possesses a valid wastewater management permit and valid vehicle licenses, as required by IDEM;

c. The pollutants are introduced into the POTW via a discharge point designated by the permittee.

14. In the event that the permittee allows the introduction of trucked or hauled pollutants under the conditions specified in item 13 above, the permittee shall:

a. Obtain and retain, for a minimum of forty-eight hours, samples that are representative of the hauled or trucked pollutants;

b. Analyze the samples obtained pursuant to item “a” above in the event that the permittee believes or has reason to believe that the hauled or trucked pollutants may be causing and/or contributing to pass-through and/or interference;

c. Maintain records, for each discharge of trucked or hauled pollutants into the POTW, of the following:

(1) Name of the person discharging the trucked or hauled pollutants;

(2) Wastewater management permit number (if applicable) and vehicle license number and expiration date;

(3) Origination, volume, and nature of the trucked or hauled pollutants;

(4) Date and time of the discharge;

(5) Any sampling conducted;

(6) Analytical Results, if any.

NOTE: A summary of the revisions to the General Pretreatment Regulations (40 CFR 403), along with other pretreatment regulations, are available at the EPA website. http://www.epa.gov/lawsregs/search/40cfr.html

ATTACHMENT A

Sanitary Sewer Overflows (SSOs)

Overflows in the sanitary sewer system or in a sanitary portion of a combined sewer system are expressly **prohibited** from discharging at any time. Should any release from the sanitary sewer system occur, the permittee is required to notify the Office of Water Quality within twenty-four (24) hours in accordance with the requirements in Part II.C.3 of this permit. The correspondence shall include the duration and cause of discharge as well as the remedial action taken to eliminate it. The overflow duration and estimated flow shall also be reported on the Monthly Report of Operation form. Additionally, monitoring requirements are included in Table 3 below.

The following SSO point has been identified as being present in the collection system:

SSO #	Location	Receiving Stream
002	Flow Equalization Basin located at North Road, approximately 7 miles north of the City of Carmel WWTP Latitude: 86° 06' 27" N Longitude: 39° 59' 18" W	Cool Creek

TABLE 3

Outfall 002 (See Attachment A)

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	---------- DISCHARGE PROHIBITED ----------					MGD	Daily during precipitation[1]	

[1] Permittee shall monitor discharges from each outfall listed above by visual or telemetric inspection of each listed outfall within 24 hours of receiving 0.25 inches of precipitation or greater within a 24 hour period as recorded at the nearest National Weather Service Reporting Station. Permittee shall maintain a record of each visual or telemetric inspection on-site for a period of five (5) years. Records of the visual or telemetric inspections shall be made available to IDEM and/or EPA staff upon request.

Fact Sheet
June 7, 2018
Updated: August 8, 2018

City of Carmel Wastewater Treatment Plant
located at 9609 Hazel Dell Parkway, Carmel, Indiana, Hamilton County.

Outfall Location	Latitude:	39° 55' 45" N
	Longitude:	86° 04' 35" W

NPDES Permit No. IN0022497

Background

This is the proposed renewal of the NPDES permit for the City of Carmel Wastewater Treatment Plant (WWTP) which was issued on November 7, 2013 and has an expiration date of November 30, 2018. The permittee submitted an application for renewal which was received on March 28, 2018. The permittee currently operates a Class IV, 12.0 MGD conventional activated sludge type treatment facility consisting of an influent flow meter, two (2) step screens, two (2) grit removal chambers, eight (8) primary clarifiers, ten (10) aeration tanks, six (6) secondary clarifiers, ultraviolet light disinfection, and an effluent flow meter. Waste-activated sludge and primary sludge pass through two (2) gravity belt-thickeners, a mixing tank, and a bio-pasteurization system. Then, the sludge is pumped to either of the two (2) primary anaerobic digesters, followed by two (2) secondary anaerobic digesters. After digestion, two (2) centrifuges are used for de-watering. Final sludge is stored in an open storage building or in a solar-drying building. Final sludge is distributed to local farmers as a Class A biosolid, in accordance with the permittee's Biosolids Marketing & Distribution Permit (INLA000730). If the final sludge only meets the Class B biosolids criteria, the final sludge is land applied under the permittee's Biosolids Land Application Permit (INLA000216).

Falcon Nest II, LLC received a Construction Permit on June 19, 2013 (Approval No. 20698) to construct a new sanitary sewer. The City of Carmel WWTP signed a capacity certification letter on May 20, 2013, confirming that it will accept and treat the additional 8,060 GPD of wastewater flow entering the City of Carmel's collection system. In addition, the permittee received a Construction Permit on June 6, 2014 (Approval No. 20988) to upgrade the 106th Street lift station and to install approximately 4,800 feet of interceptor sewer. Neither construction permit changed the average design flow of the wastewater treatment plant.

The City of Carmel Wastewater Treatment Plant is anticipating a future upgrade to a 14 MGD plant once the appropriate funding has been secured.

Collection System

The collection system, which extends for 432 miles, is comprised of 100% separate sanitary sewers by design with one (1) Sanitary Sewer overflow (SSO) point #002, identified and prohibited in Attachment A to this permit.

Additionally, please note that SSOs identified in the permit must be monitored in accordance with Table 3 of the permit. The permittee shall monitor discharges from each outfall listed above by visual or telemetric inspection of each listed outfall within 24 hours of receiving 0.25 inches of precipitation or greater within a 24 hour period as recorded at the nearest National Weather Service Reporting Station. Permittee shall maintain a record of each visual or telemetric inspection on-site for a period of five (5) years. Records of the visual or telemetric inspections shall be made available to IDEM and/or EPA staff upon request.

Spill Reporting Requirements

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedences that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedence to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

Solids Disposal

The permittee is required to dispose of its sludge in accordance with 329 IAC 10, 327 IAC 6.1, or 40 CFR Part 503. The permittee maintains a Biosolids Market and Distribution Permit (INLA000730) for the disposal of solids as a Class A product. The permittee also maintains a Land Application Permit (INLA000216) for the disposal of solids as a Class B product.

Receiving Stream

The facility discharges to the West Fork of the White River via Outfall 001. The receiving water has a seven day, ten year low flow ($Q_{7,10}$) of 100 cubic feet per second (65 MGD) at the outfall location. This provides a dilution ratio of receiving stream flow to treated effluent of 5.4:1.

The receiving stream is designated for full body contact recreational use and shall be capable of supporting a well-balanced warm water aquatic community in accordance with 327 IAC 2-1.

The receiving stream reach (INW01A3_01) was listed on Indiana's 2016 303(d) list for PCB impairment in fish tissue. There is a Total Maximum Daily Load (TMDL) report for the stretch of the West Fork of the White River beginning at Muncie, and continuing all the way to the Hamilton-Marion County Line. This TMDL report address *E. coli* bacteria impairment in the river and was

approved on EPA on April 9, 2007. Therefore, the receiving stream reach (INW01A3_01) is considered a Category 4A stream for *E.coli* impairment.

Industrial Contributions

The permittee accepts industrial flow from Horton, Inc., a manufacturer of automotive engine cooling fans for heavy duty truck and off highway markets. Based on this industrial contribution, Non-delegated Pretreatment Program Requirements have been included in Part III of the permit. Due to the small batch volume of process wastewater received at the City of Carmel WWTP from Horton, Inc. (approximately 3,750 gallons per day), no additional requirements for metals or for Whole Effluent Toxicity (WET) testing are being required at this time.

Antidegradation

327 IAC 2-1.3 outlines the state's Antidegradation Standards and Implementation Procedures. The Tier 1 antidegradation standard found in 327 IAC 2-1.3-3(a) applies to all surface waters of the state regardless of their existing water quality. Based on this standard, for all surface waters of the state, existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. IDEM implements the Tier 1 antidegradation standard by requiring NPDES permits to contain effluent limits and best management practices for regulated pollutants that ensure the narrative and numeric water quality criteria applicable to the designated use are achieved in the water and any designated use of the downstream water is maintained and protected.

The Tier 2 antidegradation standard found in 327 IAC 2-1.3-3(b) applies to surface waters of the state where the existing quality for a parameter is better than the water quality criterion for that parameter established in 327 IAC 2-1-6. These surface waters are considered high quality for the parameter and this high quality shall be maintained and protected unless the commissioner finds that allowing a significant lowering of water quality is necessary and accommodates important social or economic development in the area in which the waters are located. IDEM implements the Tier 2 antidegradation standard for regulated pollutants with numeric water quality criteria quality adopted in or developed pursuant to 327 IAC 2-1 and utilizes the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6.

According to 327 IAC 2-1.3-1(b), the antidegradation implementation procedures in 327 IAC 2-1.3-5 and 2-1.3-6 apply to a proposed new or increased loading of a regulated pollutant to surface waters of the state from a deliberate activity subject to the Clean Water Act, including a change in process or operation that will result in a significant lowering of water quality.

This permit includes a new permit limitation for total phosphorus. In accordance with 327 IAC 2-1.3-1(b), the new permit limitation is not subject to the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 as the new permit limitation is not the result of a deliberate activity taken by the permittee.

Effluent Limitations and Rationale

The effluent limitations proposed herein are based on Indiana Water Quality Standards, NPDES regulations, Wasteload Allocation (WLA) analyses performed by this Office's Permits Branch staff on January 3, 1989, and on March 10, 1997. These limits are in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(a)(11)(A). Monitoring frequencies are based upon facility size, type, and compliance history.

The final effluent limitations to be limited and/or monitored include: Flow, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Ammonia-nitrogen (NH_3-N), Total Phosphorus, pH, Dissolved Oxygen (DO), and *Escherichia coli* (*E. coli)*.

For a facility sized like the City of Carmel WWTP (average design flow of 12 MGD), eight (8) grab samples are normally required for 24-hour composite sampling. During the past two permit cycles, the permittee has been allowed to take four (4) grab samples instead of eight (8) samples for the following parameters: $CBOD_5$, TSS, NH_3-N, and DO. A review of the permittee's discharge monitoring data during the past permit cycle demonstrated sufficient compliance with these parameters. Therefore, the reduced sampling requirement of four (4) grab samples for a 24-hour composite sample has been retained in this permit. This grab sampling requirement could be re-evaluated during the next permit renewal and/or if the permittee decides to upgrade their facility.

Final Effluent Limitations

The summer monitoring period runs from May 1 through November 30 of each year and the winter monitoring period runs from December 1 through April 30 of each year. The disinfection season runs from April 1 through October 31 of each year.

The mass limits for $CBOD_5$, TSS, and ammonia-nitrogen are calculated by multiplying the average design flow (in MGD) by the corresponding concentration value and by 8.345.

Influent Monitoring

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13 and Part I.B.2 of the permit. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by the permit.

Flow

Flow is to be measured daily as a 24-hour total. Reporting of flow is required by 327 IAC 5-2-13.

$CBOD_5$

$CBOD_5$ is limited to 16 mg/l (1,602 lbs/day) as a monthly average and 24 mg/l (2,403 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, $CBOD_5$ is limited to 25 mg/l (2,504 lbs/day) as a monthly average and 40 mg/l (4,006 lbs/day) as a weekly average.

Monitoring is to be conducted daily by 24-hour composite sampling. The summer $CBOD_5$ concentration limitation included in this permit is set in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(11)(A). This limit was originally determined through the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on January 3, 1989. The WLA performed on March 10, 1997 developed less stringent limits for summer $CBOD_5$. Therefore, the 1989 summer limit for $CBOD_5$ has been retained in the permit.

The winter $CBOD_5$ concentration limitation is set in accordance with the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch on March 10, 1997. This limit is identical to the concentration originally derived in the WLA conducted on January 3, 1989. Both the summer and winter limitations for $CBOD_5$ are the same as the concentration limitations found in the facility's previous permit.

TSS

TSS is limited to 20 mg/l (2,003 lbs/day) as a monthly average and 30 mg/l (3,004 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, TSS is limited to 30 mg/l (3,004 lbs/day) as a monthly average and 45 mg/l (4,506 lbs/day) as a weekly average.

Monitoring is to be conducted daily by 24-hour composite sampling. The summer TSS concentration limitation included in this permit is set in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(11)(A). This limit was originally derived through the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on January 3, 1989. The March 10, 1997 derived less stringent limits for the summer TSS concentration. Therefore, the original 1989 summer limit for TSS has been retained in the permit.

The winter TSS concentration is set in accordance with the WLA analysis performed by this Office's Permits Branch on March 10, 1997. This limit is identical to the concentration originally derived in the WLA performed on January 3, 1989. Both the summer and winter TSS concentration limitations are the same as the concentration limitations found in the facility's previous permit.

Ammonia-nitrogen

Ammonia-nitrogen is limited to 1.5 mg/l (150 lbs/day) as a monthly average and 2.25 mg/l (225 lbs/day) as a weekly average during the summer monitoring period. During the winter monitoring period, ammonia-nitrogen is limited to 3.0 mg/l (300 lbs/day) as a monthly average and 4.5 mg/l (451 lbs/day) as a weekly average.

Monitoring is to be conducted daily by 24-hour composite sampling. The ammonia-nitrogen concentration limitations included in this permit are set in accordance with antibacksliding regulations specified in 327 IAC 5-2-10(11)(A). These limits were originally determined through the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on January 3, 1989. The 1997 WLA derived less stringent limits. Due to antibacksliding requirements, the original 1989 limits for ammonia-nitrogen have been retained in the permit. These permit limitations are the same as the concentration limitations found in the facility's previous permit.

Total Phosphorus

Excessive phosphorus in the discharge from wastewater treatment plants can result in harmful algal blooms that negatively impact fish habitat, cause fish kills, lower dissolved oxygen, and pose public health concerns related to increased exposure to toxic microbes. The effects of nutrient pollution can be observed both in local waters as well as downstream waters. IDEM has calculated that sanitary wastewater treatment plants with average design flows greater than or equal to 1 MGD constitute a significant percentage of the total load of phosphorus discharged to Indiana's waterways from sanitary wastewater treatment plants.

Consistent with IDEM's current Nonrule policy (WATER-019-NPD) which applies total phosphorus reduction requirements to POTWs with average design flows greater than or equal to 1 MGD, monitoring requirements and an effluent limitation for total phosphorus have been included in the permit renewal. Total phosphorus is limited to 1.0 mg/l as a monthly average. Monitoring is to be conducted daily by 24-hour composite sampling. Since this is a new permit limitation and sufficient justification was submitted by the permittee, a thirty-six (36) month compliance schedule has been inserted into the permit. During the interim period of the compliance schedule, total phosphorus shall be monitored and reported on a monthly basis.

pH

The pH limitations have been based on 40 CFR 133.102 which is cross-referenced in 327 IAC 5-5-3. To ensure conditions necessary for the maintenance of a well-balanced aquatic community, the pH of the final effluent must be between 6.0 and 9.0 standard units in accordance with provisions in 327 IAC 2-1-6(b)(2).

pH must be measured daily by grab sampling. These pH limitations are the same as the limitations found in the facility's previous permit.

Dissolved Oxygen

Dissolved oxygen shall not fall below 5.0 mg/l as a daily minimum average during the summer monitoring period. During the winter monitoring period, dissolved oxygen shall not fall below 4.0 mg/l as a daily minimum average.

These dissolved oxygen limitations are based on the Wasteload Allocation (WLA) analysis performed by this Office's Permits Branch staff on March 10, 1997 and are the same as the

concentration limitations found in the facility's previous permit. Dissolved oxygen measurements must be based on the average of four (4) grab samples taken within a 24-hr. period. This monitoring is to be conducted daily. During the 1998 NPDES permit issuance, the permittee requested that the grab sampling requirement for DO be reduced from eight (8) grab samples to four (4) grab samples within a 24-hr. period. A review of the last permit cycle reveals satisfactory compliance with the effluent limitations for DO. Therefore, a grab sampling frequency of four (4) has been retained in the permit. However, this sampling frequency may be re-evaluated if the permittee upgrades to a 14 MGD facility.

E. coli

The *E. coli* limitations and monitoring requirements apply from April 1 through October 31, annually. *E. coli* is limited to 125 count/100 ml as a monthly average, and 235 count/100 ml as a daily maximum. The monthly average *E. coli* value shall be calculated as a geometric mean. This monitoring is to be conducted daily by grab sampling. These *E. coli* limitations are set in accordance with regulations specified in 327 IAC 5-10-6.

Chlorides

Chlorides are present in the City of Carmel's wastewater due to water softening processes taking place in residential areas as well as at the City of Carmel's Water Plant. There is currently no industrial source of chlorides. After evaluating the in-stream water quality conditions downstream of the plant's discharge, this Office has concluded that inserting monitoring requirements for chloride within the permit is not necessary at this time. However, the annual average concentrations offered by the permittee reveal that effluent chloride concentrations are approaching the point where they could potentially exceed the acute aquatic life criterion for chloride. Based on the average design flow of 12 MGD and the current $Q_{7,10}$ low-flow for the receiving stream reach of the West Fork of the White River, the monthly average and daily maximum chloride concentrations for the City of Carmel WWTP would be the following:

Monthly Average Concentration (mg/L): 690 mg/L
Daily Maximum Concentration (mg/L): 1,400 mg/L

Therefore, this Office may re-evaluate chloride in future permit renewals by inserting monitoring requirements in the permit or by performing a formal reasonable potential to exceed (RPE) analysis. Therefore, it is recommended that the City of Carmel continue self-monitoring for chlorides on a regular basis. Furthermore, it is highly recommended that the City of Carmel work towards reducing chloride at its various sources as much as possible.

Whole Effluent Toxicity Testing

The permittee submitted a Whole Effluent Toxicity Tests (WETT) with the renewal application as required in 327 IAC 5-2-3(g). The WETT results did not exhibit any acute or chronic toxicity to the test species.

Backsliding

None of the concentration limits included in this permit conflict with antibacksliding regulations found in 327 IAC 5-2-10(a)(11)(A), therefore, backsliding is not an issue.

Reopening Clauses

Five (5) reopening clauses were incorporated into the permit in Part I.C. One clause is to incorporate effluent limits from any further wasteload allocations performed; a second clause is to allow for changes in the sludge disposal standards; a third clause is to incorporate any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act; a fourth clause is to incorporate monitoring requirements for whole effluent toxicity if deemed necessary; and a fifth clause is to incorporate monitoring and/or effluent limitations for chloride, cadmium, total chromium, copper, lead, nickel, silver, zinc, and/or total cyanide if deemed necessary.

Compliance Status

The permittee has no enforcement actions at the time of this permit preparation.

Expiration Date

A five-year NPDES permit is proposed.

Drafted by: Gabrielle Ghreichi
June 7, 2018
Updated: August 8, 2018

POST PUBLIC NOTICE ADDENDUM: August 8, 2018

The draft NPDES permit renewal for the City of Carmel Wastewater Treatment Plant was made available for public comment from July 5, 2018 through August 6, 2018 as part of Public Notice No. 2018 – 7A – RD. During this comment period, comment letters dating July 26th & July 27th, 2018 from John Duffy, Director of Utilities, were received. The comments submitted by John Duffy, and this Office's corresponding responses are summarized below: Any changes to the permit and/or Fact Sheet are so noted below.

Comment 1: *"We are requesting that the requirement for annual whole effluent toxicity testing (WETT) be revised. The requirement for annual testing is presented in Part I.E on page 11. We request that the frequency of WETT be revised from annually to 'prior to the next permit' as was required in our previous NPDES permit […] We believe that Horton, Inc. does not represent a reasonable potential for us to exceed toxicity in our treatment plant effluent, therefore we are requesting that the annual requirement of WETT analysis be removed from our NPDES permit."*

In the comment letter received by the Director of Utilities, John Duffy, he explains that flow from their sole industry, Horton, Inc. constitutes only about 0.02% – 0.04% of the WWTP's average design flow. The City of Carmel also received a "Total Toxic Organics Certification Statement" from Horton, Inc., confirming that they do not discharge any concentrated toxic organics to the treatment plant. In addition, John notes that the City of Carmel has not failed a WETT test in more than 20 years.

John Duffy
July 27, 2018

Response 1: Due to the low volume and batch-like nature of the City of Carmel WWTP's industrial contribution as well as the City's excellent compliance history with their WETT testing results, this Office agrees that the annual testing requirement for WETT testing is not necessary at this time. All language pertaining to this annual WETT testing has been removed from both the permit and the Fact Sheet.

Gabrielle Ghreichi
August 8, 2018

Comment 2: *"Given that SSO #002 is extensively monitored and operated via remote telemetry that provides real-time operational details of the EQ Basin, including warning alarms, in addition to providing a historical record of EQ Basin levels reported at 15-minute-intervals, we request that telemetric inspection be an acceptable means of monitoring and recording outfall discharges".*

John Duffy
July 26, 2018

Response 2: This Office agrees that the City of Carmel's use of advanced telemetry is an acceptable means of monitoring and recording activity at the SSO #002 point located at the equalization basin. In Table 3 of Attachment A of the permit, the monitoring language in Footnote [1] requires the permittee to monitor discharges after a 0.25 inch rainfall via visual inspection and to maintain records of these visual inspections on-site for a period of five years. In the final permit and Fact Sheet, the phrase "visual *or telemetric inspection*" will replace any occurrence where only "visual inspection" is listed. To summarize, telemetric inspection of SSO #002 will satisfy the requirement to check on any SSO points after a 0.25-inch rainfall event.

Gabrielle Ghreichi
August 8, 2018

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO: 2018 – 8F – F
DATE OF NOTICE: AUGUST 16, 2018

The Office of Water Quality issues the following NPDES FINAL PERMIT.

MAJOR - RENEWAL

CARMEL (city) WWTP, Permit No. IN0022497, HAMILTON COUNTY, 9609 Hazel Dell Pkwy, Indianapolis, IN. This major municipal facility discharges 12 million gallons daily of sanitary wastewater into the White River (West Fork). Permit Manager: Gabrielle Ghreichi, gghreich@idem.in.gov, 317/234-1191.

Notice of Right to Administrative Review [Permits]

If you wish to challenge this Permit, you must file a Petition for Administrative Review with the Office of Environmental Adjudication (OEA), and serve a copy of the Petition upon IDEM. The requirements for filing a Petition for Administrative Review are found in IC 4-21.5-3-7, IC 13-15-6-1 and 315 IAC 1-3-2. A summary of the requirements of these laws is provided below.

A Petition for Administrative Review must be filed with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the issuance of this notice (eighteen (18) days if you received this notice by U.S. Mail), and a copy must be served upon IDEM. Addresses are:

Director
Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue - Room N103
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
100 North Senate Avenue - Room 1301
Indianapolis, Indiana 46204

The Petition must contain the following information:

1. The name, address and telephone number of each petitioner.
2. A description of each petitioner's interest in the Permit.
3. A statement of facts demonstrating that each petitioner is:
    a. a person to whom the order is directed;
    b. aggrieved or adversely affected by the Permit;
    c. entitled to administrative review under any law.
4. The reasons for the request for administrative review.
5. The particular legal issues proposed for review.
6. The alleged environmental concerns or technical deficiencies of the Permit.
7. The Permit terms and conditions that the petitioner believes would be appropriate and would comply with the law.
8. The identity of any persons represented by the petitioner.
9. The identity of the person against whom administrative review is sought.
10. A copy of the Permit that is the basis of the petition.
11. A statement identifying petitioner's attorney or other representative, if any.

Failure to meet the requirements of the law with respect to a Petition for Administrative Review may result in a waiver of your right to seek administrative review of the Permit. Examples are:

1. Failure to file a Petition by the applicable deadline;
2. Failure to serve a copy of the Petition upon IDEM when it is filed; or
3. Failure to include the information required by law.

If you seek to have a Permit stayed during the Administrative Review, you may need to file a Petition for a Stay of Effectiveness. The specific requirements for such a Petition can be found in 315 IAC 1-3-2 and 315 IAC 1-3-2.1.
Pursuant to IC 4-21.5-3-17, OEA will provide all parties with Notice of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action. If you are entitled to Notice under IC 4-21.5-3-5(b) and would like to obtain notices of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action without intervening in the proceeding you must submit a written request to OEA at the address above. More information on the appeal review process is available on the website for the Office of Environmental Adjudication at http://www.in.gov/oea.

City of Carmel Utilities

John Duffy
Director of Utilities
March 13th, 2018

IDEM - OWQ
Municipal NPDES Permits Section
100 North Senate Avenue (MC 65-42)
Indianapolis, IN 46204-2251

RE: Identification of Potentially Affected Parties Form
Supplemental Data Information Request Form

To whom it may concern,

The City of Carmel's application for a Municipal NPDES Permit is enclosed with this packet of information. As requested, I have also enclosed the application fee and the Whole Effluent Toxicity Test. However, the *Identification of Potentially Affected Parties Form* and the *Supplemental Data Information Request Form* are not included.

After thorough review and consideration of the potentially affected parties listed on the *Identification of Potentially Affected Parties Form*, I am unaware of any persons that may be affected by the statutes listed on the Form. Therefore, I have excluded the Form from this packet of information.

Likewise, I have thoroughly considered the pertinence of the *Supplemental Data Information Request Form* and have determined that our facility has not been monitoring or reporting effluent data for non-conventional parameters. Therefore, I have no data to disclose with our application and have, henceforth, excluded the Form from this packet.

If you have any questions or concerns, please contact me at (317) 571-2451. Your attention is greatly appreciated.

Sincerely,

John Duffy
Director of Utilities, City of Carmel

MUNICIPAL NPDES PERMIT COMPLETENESS CHECKLIST & SUBMITTAL FORM

MAIL TO:
Indiana Department of Environmental Management
Office of Water Quality-Mail Code 65-42
Municipal NPDES Permits Section
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

NPDES PERMIT No. IN00 22497

Facility Name City of Carmel Wastewater Treatment Plant

Mailing Address 9609 Hazel Dell Parkway

Indianapolis, Indiana 46280

Facility Location Same as Above

Contact & Telephone Ed Wolfe Phone: (317) 571 - 2634 x1633

REQUIRED INFORMATION

REQUIRED WITH ALL APPLICATIONS	TECHNICAL APPLICATIONS
X $50.00 Permit Application Fee	___ Semi Public / Minor Municipal Application
X Affected Parties Identification Form	X Major Municipal Application / EPA Form
X Request for Information Form	X Whole Effluent Toxicity Test (WET-TEST)

**** An issued Construction Approval is required with all applications for a *NEW* NPDES permitted facility.**

The Permit Fee, Affected Parties Form and Request for Information Forms are required with all applications. **Whole Effluent Toxicity Testing is required for all Major facility renewal applications in accordance with regulations specified in 327 IAC 5-2-3(g) (1) and (2).** Please check the information that is included, and insure that all forms are completely filled out with date and signature.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Eric J. Holcomb, *Governor*
Bruno L. Pigott, *Commissioner*

TO: All NPDES Permit Applicants

FROM: NPDES Permit Section
Office of Water Quality

SUBJECT: Request for Information

We request that you fill in the blanks on this form and return it along with your NPDES PERMIT application. The information provided will be helpful in our personal contact with officials of our municipality or other facilities in assuring prompt delivery of correspondence, etc. Thank you for your cooperation.

I. **CURRENT NPDES PERMIT NO.** IN00 22497 (New applicants will be assigned a number later)

II. **WASTEWATER TREATMENT PLANT FACILITY LOCATION ADDRESS (PHYSICAL LOCATION OF FACILITY)**

Facility Name: City of Carmel Wastewater Treatment Plant

Address: 9609 Hazel Dell Parkway

City: Indianapolis State: Indiana Zip: 46280

III. **MAILING ADDRESS IF DIFFERENT FROM FACILITY LOCATION**

Address:

City: State: Zip:

IV. **OWNER OR LEGALLY RESPONSIBLE PARTY (TOWN BOARD/COUNCIL PRESIDENT, MAYOR, SUPERINTENDENT)**

Name: John Duffy Title: Director of Utilities

Address: 30 West Main Street: Suite 200

City: Carmel State: Indiana Zip: 46032

E-mail Address: jduffy@carmel.in.gov Phone: (317) 339 - 8472

V. **WASTEWATER TREATMENT PLANT CERTIFIED OPERATOR**

Name: Jordan Kleinsmith Certification #: 15515 Classification: IV

E-mail Address: jkleinsmith@carmel.in.gov Work Phone: (317) 571 - 2634

IDENTIFICATION OF POTENTIALLY AFFECTED PARTIES
State Form 49456 (R / 2-09)

IDEM
Office of Water Quality-Mail Code 65-42
Municipal NPDES Permits Section
100 North Senate Avenue
Indianapolis, IN 46204-2251

The Administrative Orders and Procedures Act (AOPA) IC 4-21.5-3-5(b), requires that the Indiana Department of Environmental Management (IDEM) give notice of its decision on your application to the following persons:

a) Each person to whom the decision is specifically directed;
b) Each person to whom a law requires notice to be given;
c) Each competitor who has applied to the IDEM for a mutually exclusive license, if issuance is the subject of the decision and the competitor's application has not been denied in an order for which all rights to judicial review have been waived or exhausted;
d) Each person who has provided the IDEM with a written request for notification of the decision;
e) Each person who has a substantial and direct proprietary interest in the issuance of the (permit/variance);
f) Each person whose absence as a party in the proceeding concerning the (permit/variance) decision would deny another party complete relief in the proceeding or who claims an interest related to the issuance of the (permit/variance) and is so situated that the disposition of the matter, in the person's absence may:
    1) As a practical matter impair or impede the person's ability to protect that interest, or
    2) Leave any other person who is a party to a proceeding concerning the permit subject to a substantial risk of incurring multiple or otherwise an inconsistent obligation by reason of the person's claimed interest.

IC 4-21.5-3-5(f) provides that we may request your assistance in identifying these people.

Additionally, IC 13-15-3-1 requires IDEM to send notice that the permit application has been received by the department to the following:

a) The board of county commissioners of a county affected by the permit application and
b) The mayor of a city that is affected by the permit application, or
c) The president of a town council of a town affected by the permit application.

Please provide on the following form the names of those persons affected by these statutes, and include mailing labels with your application. These mailing labels should have the names and addresses of the affected parties along with our mailing code (65-42PS) listed above each affected party listing.

Example: 65-42PS
John Doe
111 Circle Drive
City, State, Zip Code

IDENTIFICATION OF POTENTIALLY AFFECTED PARTIES
State Form 49456 (R2 / 3-15)
Approved by State Board of Accounts, 2009

IDEM
Office of Water Quality, Permits Branch
100 North Senate Ave.
MC 65-42PS
Indianapolis, IN 46204-2251

The Administrative Orders and Procedures Act (AOPA) IC 4-21.5-3-5(b), requires that the Indiana Department of Environmental Management (IDEM) give notice of its decision on your application to the following persons:

a) Each person to whom the decision is specifically directed;
b) Each person to whom a law requires notice to be given;
c) Each competitor who has applied to the IDEM for a mutually exclusive license, if issuance is the subject of the decision and the competitor's application has not been denied in an order for which all rights to judicial review have been waived or exhausted;
d) Each person who has provided the IDEM with a written request for notification of the decision;
e) Each person who has a substantial and direct proprietary interest in the issuance of the (permit/variance);
f) Each person whose absence as a party in the proceeding concerning the (permit/variance) decision would deny another party complete relief in the proceeding or who claims an interest related to the issuance of the (permit/variance) and is so situated that the disposition of the matter, in the person's absence may:
    1) As a practical matter impair or impede the person's ability to protect that interest, or
    2) Leave any other person who is a party to a proceeding concerning the permit subject to a substantial risk of incurring multiple or otherwise an inconsistent obligation by reason of the person's claimed interest.

IC 4-21.5-3-5(f) provides that we may request your assistance in identifying these people.

Additionally, IC 13-15-3-1 requires IDEM to send notice that the permit application has been received by the department to the following:

a) The board of county commissioners of a county affected by the permit application and
b) The mayor of a city that is affected by the permit application, or
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Please provide on the following form the names of those persons affected by these statutes, and include mailing labels with your application. These mailing labels should have the names and addresses of the affected parties along with our mailing code (65-42PS) listed above each affected party listing.

Example: 65-42PS
John Doe
111 Circle Drive
City, State, Zip Code

I. Identification of Potentially Affected Persons

Please list here any and all persons whom you have reason to believe have a substantial or proprietary interest in this matter, or could otherwise be considered to be potentially affected under the law. Failure to notify any person who is later determined to be potentially affected could result in voiding our decision on procedural grounds. To ensure conformance with AOPA and to avoid reversal of a decision, please list all such parties. The letter attached to this form will further explain the requirements under the AOPA. Attach additional names and addresses on a separate sheet of paper, as needed. Please indicate below the type of action you are requesting.

Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
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City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:
Name:		Name:
Street address:		Street address:
City/State/ZIP code:		City/State/ZIP code:

II. Please complete this form by signing the following statement.

I certify to the best of my knowledge I have listed all potentially affected parties, as defined by IC 4-21.5.		
Signature: James Brainard		
Printed name: James Brainard		Date *(month, day, year)*: 4/16/18
Name of facility: City of Carmel Wastewater Treatment Plant		
Address of facility *(number and street)*: 9609 Hazel Dell Parkway		
City of facility: Indianapolis	State of facility: Indiana	ZIP code: 46280

III. Type of Action (check one)

- [x] NPDES Permit-327 IAC 5
- [ ] Pretreatment Permit -327 IAC 5
- [ ] Construction Permit-327 IAC 3

A $50.00 fee is required for a New permit, a Renewal or a Modification; if this is a renewal or modification request, include NPDES permit No. on check and return to:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Quality – Mail Code 65-42
Room N1255
Permits Branch
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Supplemental Data Information Request

If your facility has been reporting effluent data for non-conventional parameters (metals and other toxics) in your current permit, especially for a future reasonable potential determination, IDEM requests at a minimum, the most recent thirty-six (36) months of concentration data be submitted with the renewal application. (Specifically, for **Mercury** include the most recent sixty (60) months of concentration data.) This data should be submitted in a Microsoft Excel-type spreadsheet format on CD or as a paper copy and should include, for **each parameter**:

- the date the sample was taken
- the concentration data value and
- the concentration unit required in the permit (ex: mg/l, ug/l, etc..)

(Regarding *less than* values, depict a "<" before the concentration data value if the data value is *less than* the limit of detection (ex. < 2 ug/l). Individual concentration data values are requested; computation and submittal of averages is not necessary.

Form Approved OMB No. 2040-0086
Approval expires 7-31-88

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM A - MUNICIPAL

SECTION I APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate "NA"

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type

1.	Legal Name of Applicant (See instructions)	101	City of Carmel, Indiana
2.	Mailing Address of Applicant (See instructions)		
	Number and Street	102a	City Hall, One Civic Square
	City	102b	Carmel
	State	102c	Indiana
	Zip Code	102d	46032
3.	Applicant's Authorized Agent (See instructions)		
	Name and Title	103a	John Duffy Director of Utilities
	Number and Street	103b	30 West Main Street, Suite 200
	City	103c	Carmel
	State	103d	Indiana
	Zip Code	103e	46032
	Telephone	103f	317-339-8472 Area Code Number
4.	Previous Application If a previous application for a permit under the National Pollutant Discharge Elimination System has been made, give the date of application	104	2013 (YR) 05 (MO) 22 (DAY)

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete and accurate.

James Brainard Printed Name of Person Signing	102e	Mayor of Carmel Title
Jane Brainard Signature of Applicant or Authorized Agent	102f	18 (YR) 04 (MO) 16 (DAY) Date Application Signed

18 U.S.C. Section 1001 provides that:
Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

5. Facility (see instructions)
Give the name, ownership, and physical location of the plant or other operating facility where discharge(s) presently occur(s) or will occur.

Name	105a	City of Carmel Wastewater Treatment Plant
Ownership	105b	X Public ___ Private ___ Both Public and Private
Federal Facility	105c	___ Yes X No
GSA Inventory Control Number	105d	
Location: Number and Street	105e	9609 Hazel Dell Parkway
City	105f	Indianapolis
County	105g	Hamilton
State	105h	Indiana

6. Discharge to Another Municipal Facility (See instructions)

a. Indicate if part of your discharge is into a municipal waste transport system under another responsible organization. If yes, complete the rest of this item and continue with item 7. If no, go directly to item 7.	106a	___ Yes X No
b. Responsible Organization Receiving Discharge Name	106b	
Number and Street	106c	
City	106d	
State	106e	
Zip Code	106f	
c. Facility which Receives Discharge Give the name of the facility (Waste treatment plant) which receives and is ultimately responsible for treatment of the discharge from your facility.	106g	
d. Average Daily Flow to Facility (mgd) Give your average daily flow into the receiving facility.	106h	___ mgd

7. Facility Discharges, Number and Discharge Volume (see instructions)
Specify the number of discharges described in this application and the volume of water discharged or lost to each of the categories below. Estimate average volume per day in million gallons per day. Do not include intermittent or noncontinuous overflows, bypasses or seasonal discharges from lagoons, holding ponds, etc.

Form Approved OMB No. 2040-0086
Approval expires 7-31-88

			Number of Discharge Points		Total Volume Discharged, Million Gallons Per Day
To:	Surface Water	107a1		107a2	
	Surface Impoundment with no Effluent	107b1		107b2	
	Underground Percolation	107c1		107c2	
	Well (Injection)	107d1		107d2	
	Other	107e1		107e2	
Total Item 7		107f1		107f2	
If "Other" is specified, describe		107g1			

If any of the discharges from this facility are intermittent, such as from overflow or bypass points, or are seasonal or periodic from lagoons, holding ponds, etc., complete Item 8.

8. Intermittent Discharges

a.	Facility bypass points indicate number of bypass points for the facility that are discharge points. (See instructions)	108a	
B.	Facility Overflow Points Indicate the number of overflow points to a surface water for the facility. (See instructions)	108b	
C.	Seasonal or Periodic Discharge Points Indicate the number of points where seasonal discharges occur from holding ponds, lagoons, etc.	108c	

9. Collection System Type
Indicate the type and length (in miles) of the collection system used by this facility. (See instructions) 109a

Separate Storm		SST
Separate Sanitary		SAN
Combined Sanitary and Storm		CSS
Both Separate Sanitary and Combined Sewer Systems		BSC
Both Separate Storm and Combined Sewer Systems		SSC
Length	109b 432	Miles

10. Municipalities or Areas Served (See instructions)

	Name		Actual Population Served
110a	City of Carmel, Indiana	110b	53,900
110a	Clay Township, Indiana	110b	17,600
110a	City of Westfield, Indiana	110b	12,100
110a		110b	
110a		110b	
Total Population Served		110c	83,600

11. Average Daily Industrial Flow
Total estimated average daily waste flow from all industrial sources.

111 0.004 Mgd

Note: All major industries (as defined in Section IV) discharging to the municipal system must be listed in Section IV.

12. Permits, Licenses and Applications
List all existing, pending or denied permits, licenses and applications related to discharges from this facility. (See instructions)

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed YR/MO/DA	Date Issued YR/MO/DA	Date Denied YR/MO/DA	Expiration Date YR/MO/DA
112	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1.	IDEM		NPDES	IN0022497	13/11/07	13/12/01		18/11/30
2.								
3.								

13. Maps and Drawings
Attach all required maps and drawings to the back of this application. (See instructions)

14. Additional Information

114	Item Number	Information

* U.S. GOVERNMENT PRINTING OFFICE: 1975-628-068/448 3-1

Form Approved OMB No.158-R0100

STANDARD FORM A - MUNICIPAL

SECTION II BASIC DISCHARGE DESCRIPTION

Complete this section for each present or proposed discharge indicated in Section I, Items 7 and 8, that is to surface waters. This includes discharges to other municipal sewerage systems in which the waste water does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. Separate descriptions of each discharge are required even if several discharges originate in the same facility. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. And Name

a. Discharge Serial No. (See instructions)	201a	001
b. Discharge Name Give name of discharge, if any (See instructions)	201b	Outfall 001
c. Previous Discharge Serial No. If a previous NPDES permit Application was made for this discharge (Item 4 Section I) provide previous discharge serial number	201c	001

2. Discharge Operating Dates

a. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date the discharge will begin.	202a	Dec. 2018 (Year and Month)
b. Discharge to End Date If the discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. Give reason for discontinuing this discharge in Item 17.	202b	Dec. 2023 (Year and Month)

3. Discharge Location
Name the political boundaries within which the point of discharge is located

			Agency Use	
State	203a	Indiana	203d	
County	203b	Hamilton	203e	
City or Town (if applicable)	203c	Indianapolis	203f	

4. Discharge Point Description
(See instructions)
Discharge is into (check one)

Stream (includes ditches, arroyos, and other watercourses)	204a	X	STR
Estuary			EST
Lake			LKE
Ocean			OCE
Well (injection)			WEL
Other			OTH
If "other" is checked, specify type	204b		

5. Discharge Point - Lat/Long
State the precise location of the point of discharge to the nearest second.
(See instructions)

Latitude	205a	39	DEG	55	MIN	45 SEC
Longitude	205b	-86	DEG	4	MIN	35 SEC

EPA Form 7550-22 (7-73)

THIS SECTION CONTAINS 8 PAGES

DISCHARGE SERIAL NUMBER

001

6. Discharge Receiving Water Name
Name the waterway at the point of discharge. (See instructions) 206a: White River, West Fork

For Agency Use			For Agency Use
Major	Minor	Sub	303e

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete in Item 7. 206b

7. Offshore Discharge

a. Discharge distance from shore 207a _____ Feet

b. Discharge depth below water surface 207b _____ Feet

If discharge is from a bypass or an overflow point or is a seasonal discharge from a lagoon, holding pond, etc., complete Items 8, 9 or 10, as applicable, and continue with Item 11.

8. Bypass Discharge (see instructions)

a. Bypass Occurrence
Check when bypass occurs

Wet weather	208a1	Yes	No
Dry weather	208a2	Yes	No

b. Bypass Frequency
Actual or approximate number of bypass incidents per year

Wet weather	208b1	Times per year
Dry weather	208b2	Times per year

c. Bypass Duration
Average bypass duration in hours

Wet weather	208c1	Hours
Dry weather	208c2	Hours

d. Bypass Volume
Average volume per bypass

Wet weather	208d1	Thousand gallons per incident
Dry weather	208d2	Thousand gallons per incident

e. Bypass Reasons
Give reasons why bypass occurs 308e

Proceed to Item 11

9. Overflow Discharge (see instructions)

a. Overflow Occurrence
Check when overflow occurs

Wet weather	209a1	Yes	No
Dry weather	209a2	Yes	No

b. Overflow Frequency
Actual or approximate number of bypass incidents per year

Wet weather	208b1	Times per year
Dry weather	208b2	Times per year

EPA Form 7550-22 (7-73)

Form Approved OMB No.158-R0100

DISCHARGE SERIAL NUMBER
001

c. Overflow Duration
Average duration in hours

Wet weather	209c1		Hours
Dry weather	209c2		Hours

d. Overflow Volume
Average volume per overflow incident in thousand gallons

Wet weather	209d1		Thousand gallons per incident
Dry weather	209d2		Thousand gallons per incident

Proceed to Item 11

10. Seasonal/Periodic Discharges

a. Seasonal/periodic Discharge Frequency. If discharge is intermittent from a holding pond, lagoon, etc., give the actual or approximate number of times this discharge occurs per year.	210a		Times per year
b. Seasonal/Periodic Discharge Volume. Give the average volume per discharge occurrence in thousand gallons.	210b		Thousand gallons per discharge occurrence
c. Seasonal/Periodic Discharge Duration. Give the average duration of each discharge occurrence in days.	210c		Days

d. Seasonal/Periodic Discharge Occurrence - Months. Check the months during the year when the discharge normally occurs. — 210d

Jan	Feb	Mar
Apr	May	Jun
Jul	Aug	Sep
Oct	Nov	Dec

11. Discharge Treatment

a. Discharge Treatment Description
Describe waste abatement practices used on this discharge with a brief narrative.
(See instructions) — 211a

Treatment consists of step-screening and vortex-grit-removal, followed by solids sedimentation using eight primary clarifiers, followed by biological treatment using extended aeration (ten tanks total), followed by secondary clarification (six tanks total), followed by UV disinfection.

Waste-activated-sludge and primary-sludge is pumped to either of two gravity belt thickeners. It is then pumped to a mixing tank and proceeds to the bio-pasteurization system. After pasteurization, the sludge is pumped to either of two primary anaerobic digesters proceeded by two secondary anaerobic digesters. After digestion, the sludge is pumped to two centrifuges. After the sludge has been appropriately dewatered, it is stored in an open storage building or a solar-drying building.

DISCHARGE SERIAL NUMBER

001

b.	Discharge Treatment Codes Using the codes listed in Table I of the Instruction Booklet, describe the waste abatement processes applied to this discharge in the order in which they occur, if possible. Separate all codes with commas except where slashes are used to designate parallel operations.	211b	S, M, G, C, ASE, N, P, M T, VP, VH, DN, DN, T, VC, H, XD

If this discharge is from a municipal waste treatment plant (not an overflow or bypass) complete Items 12 and 13

12. Plant Design and Operation Manuals
Check which of the following are currently available

a.	Engineering Design Report	212a	X
b.	Operation & Maintenance Manual	212b	X

13. Plant Design Data (see instructions)

a.	Plant Design Flow (mgd)	313a	12	mgd
b.	Plant Design BOD Removal (%)	213b	92	%
c.	Plant Design N Removal (%)	213c	92	%
d.	Plant Design P Removal (%)	213d		%
e.	Plant Design SS Removal (%)	213e	91	%
f.	Plant Began Operation (year)	213f		year
g.	Plant Last Major Revision (year)	213g	2012	year

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DISCHARGE SERIAL NUMBER

001

14. Description of Influent and Effluent (see instructions)

	Influent	Effluent					
Parameter and Code 214	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Flow Million gallons per day 50050	11.4	10.2	7.5	14.4	7/7	365	24
pH Units 00400	7.6	7.4	7.1	7.6	7/7	365	G
Temperature (winter) °F 74026							
Temperature (summer) °F 74027							
Fecal Streptococci Bacteria Number/100 ml 74054 (Provide if available)							
Fecal Coliform Bacteria Number/100 ml 74055 (Provide if available)		E.coli = 6	E.coli = 4	E.coli = 11	7/7	214	G
Total Coliform Bacteria Number/100 ml 74056 (Provide if available)							
BOD 5-day mg/l 00310	181	3	3	5	7/7	365	24
Chemical Oxygen Demand (COD) mg/l 00340 (Provide if available **OR** Total Organic Carbon (TOC) mg/l 00680 (Provide if available) (Either analysis is acceptable)							
Chlorine-Total Residual mg/l 50060							

EPA Form 7550-22 (7-73)

DISCHARGE SERIAL NUMBER

001

14. Description of Influent and Effluent (see instructions) (Continued)

	Influent	Effluent					
Parameter and Code 214	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Total Solids mg/l 50500							
Total Dissolved Solids mg/l 70300							
Total Suspended Solids mg/l 00530	200	5	3	7	7/7	365	24
Settleable Matter (Residue) ml/l 00545							
Ammonia (as N) mg/l 00610 (Provide if available)	23	0.31	0.14	0.48	7/7	365	24
Kjeldahl Nitrogen mg/l 00625 (Provide if available)							
Nitrite (as N) mg/l 00620 (Provide if available)							
Nitrite (as N) mg/l 00615 (Provide if available)							
Phosphorus Total (as P) mg/l 00665 (Provide if available	4.5	2.5	2.2	3.1	1/30	12	24
Dissolved Oxygen (DO) mg/l 00300		7.3	6.4	8.0	7/7	365	G

EPA Form 7550-22 (7-73)

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DISCHARGE SERIAL NUMBER

001

15 Additional Wastewater Characteristics

Check the box next to each parameter if it is present in the effluent. (See instructions)

Parameter (215)	Present	Parameter (215)	Present	Parameter (215)	Present
Bromide 71870		Cobalt 01037		Thallium 01059	
Chloride 00940	X	Chromium 01034		Titanium 01152	
Cyanide 00720		Copper 01042		Tin 01102	
Fluoride 00951		Iron 01045		Zinc 01092	
Sulfide 00745		Lead 01051		Algicides* 74051	
Aluminum 01105		Manganese 01055		Chlorinated organic compounds* 74052	
Antimony 01097		Mercury 71900		Oil and grease 00550	
Arsenic 01002		Molybdenum 01062		Pesticides* 74053	
Beryllium 01012		Nickel 01067		Phenols 32730	
Barium 01007		Selenium 01147		Surfactants 328260	
Boron 01022		Silver 01077		Radioactivity* 74050	
Cadmium 01027					

*Provide specific compound and/or element in Item 17, if known.

Pesticides (Insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, DC 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, fungicide, and rodenticide Act.

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DISCHARGE SERIAL NUMBER

001

16. Plant Controls
Check if the following plant controls are available for this discharge

316		
Alternate power source for major pumping facility including those for collection system lift stations	X	APS
Alarm for power or equipment failure	X	ALM

17. Additional information

317	Item Number	Information

EPA Form 7550-22 (7-73)

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Form Approved OMB No. 158-R0100

STANDARD FORM A - MUNICIPAL

SECTION III SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

This Section requires information on any uncompleted implementation schedule which has been imposed for construction of waste treatment facilities. Requirement schedules may have been established by local, State, or Federal agencies or by court action. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (ITEM 1b) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATIONAL UNITS (ITEM 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

1. Improvements Required

a. Discharge Serial Numbers Affected — List the discharge serial numbers, assigned in Section II, that are covered by This implementation Schedule — 300

FOR AGENCY USE
Schedule No.

b. Authority Imposing Requirement — Check the appropriate item indicating the authority for the Implementation schedule. If the Identical implementation schedule has been ordered by more than one authority, check the appropriate items. (See Instructions) — 301a _____ _____ _____ _____ _____

Locally developed plan	301b	___ LOC
Areawide Plan		___ ARE
Basin Plan		___ BAS
State approved implementation schedule		___ SQS
Federal approved water quality standards implementation plan		___ WQS
Federal enforcement procedure or action		___ ENF
State court order		___ CRT
Federal court order		___ FED

c. Improvement Description — Specify the 3 character code for the General Action Description in Table II that best describes the Improvements required by the implementation schedule. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned. Also, list all the 3-character (Specific Action) codes which describe in more detail pollution abatement practices that the implementation schedule requires.

3-character general action description	301c	_____
3-character specific action descriptions	301d	____/ ____/ ____/ ____/

2. Implementation Schedule and 3. Actual Completion Dates

Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (See instructions)

Implementation Steps		2. Schedule (Yr/ Mo/ Day)	3. Actual Completion (Yr/ Mo/ Day)
a. Preliminary plan complete	302a	____/____/____	302a ____/____/____
b. Final plan complete	302b	____/____/____	302b ____/____/____
c. Financing complete and contract awarded	302c	____/____/____	302c ____/____/____
d. Site acquired	302d	____/____/____	302d ____/____/____
e. Begin construction	302e	____/____/____	302e ____/____/____
f. End construction	302f	____/____/____	302f ____/____/____
g. Begin discharge	302g	____/____/____	302g ____/____/____
h. Operational level attained	302h	____/____/____	302h ____/____/____

Form Approved OMB No.158-R0100

STANDARD FORM A - MUNICIPAL

SECTION IV. INDUSTRIAL WASTE CONTRIBUTION TO MUNICIPAL SYSTEM

Submit a description of each major industrial facility discharging to the municipal system, using a separate Section IV for each facility description. Indicate the 4 digit Standard Industrial Classification (SIC) Code for the industry, the major product or raw material, the flow (in thousand gallons per day), and the characteristics of the wastewater discharged from the industrial facility into the municipal system. Consult Table III for standard measures of products or raw materials. (See instructions)

1. Major Contributing Facility (See instructions)

Name	401a	Horton, Inc.
Number & Street	401b	201 West Carmel Drive
City	401c	Carmel
County	401d	Hamilton
State	401e	Indiana
Zip Code	401f	46032

2. Primary Standard Industrial Classification Code (See instructions) — 402: 3471

3. Principal Product or Raw Material (See instructions)

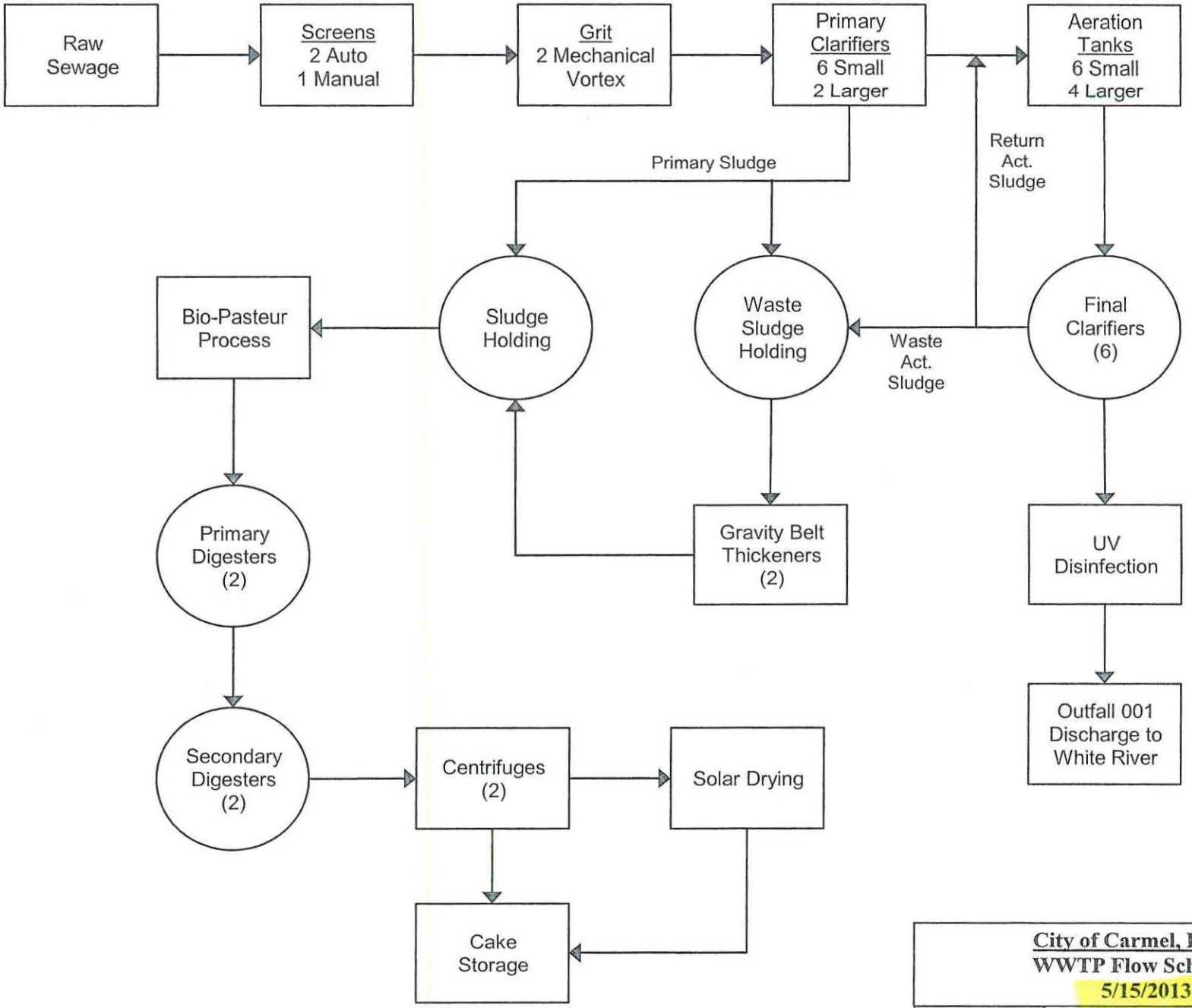
			Quanity		Units (see Table III)
Product	403a	Automotive Engine Cooling Fans	403c	403e	
Raw Material	403b		403d	403f	

4. Flow — Indicate the volume of water discharged into the municipal system in thousand gallons per day and whether this discharge is intermittent or continuous
   - 404a: 3.75 Thousand gallons per day
   - 404b: X Intermittent (int) ____ Continuous (con)

5. Pretreatment Provided — Indicate if pretreatment is provided prior to entering the municipal system. — 405: X Yes ____ No

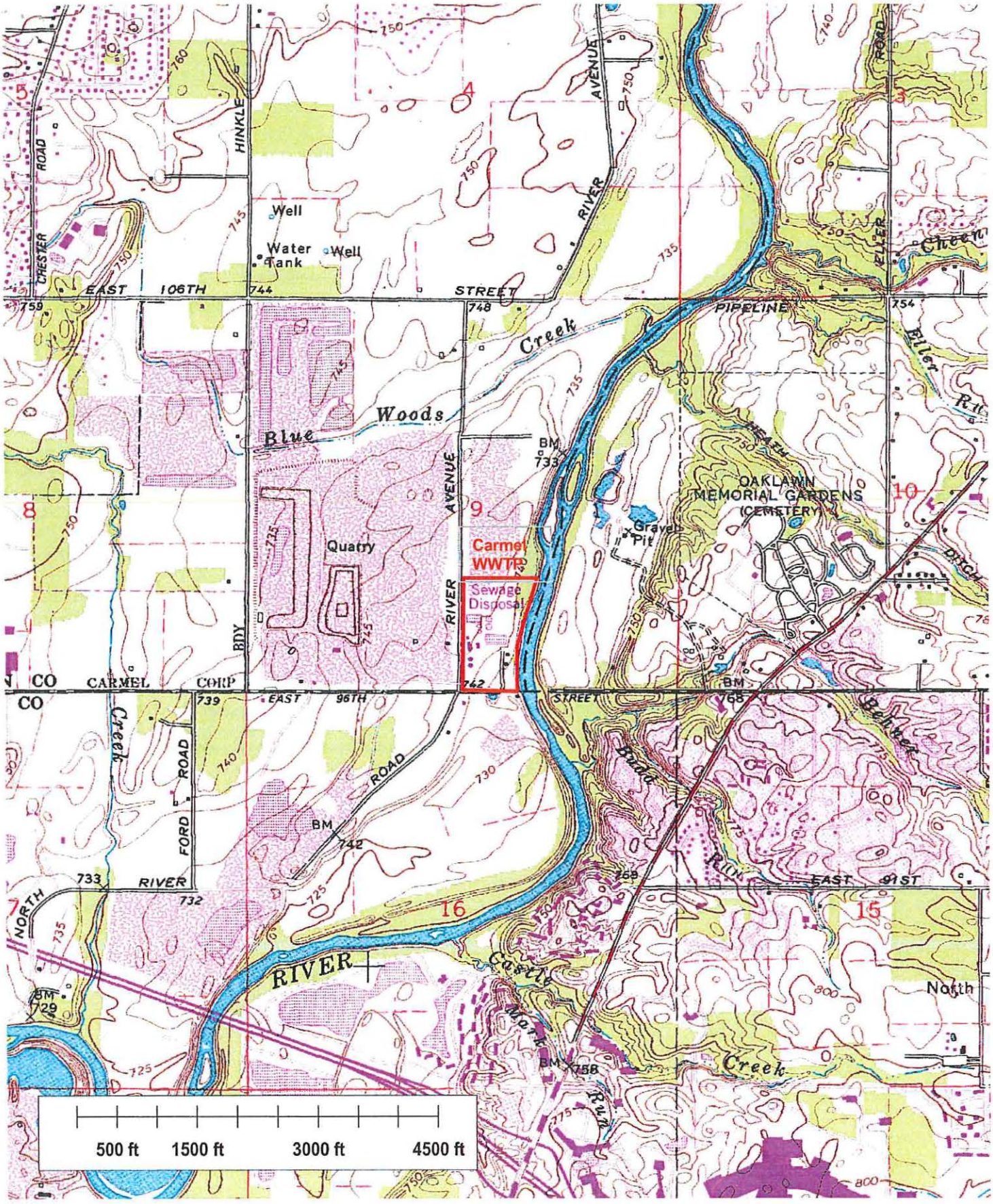
6. Characteristics of Wastewater (See instructions)

	Parameter Name	Cadmium	Chromiur	Copper	Lead	Nickel	Silver	Zinc
406a	Parameter Number	01027	01034	01042	01051	01067	01077	01092
406b	Value	<0.002	0.326	0.563	0.008	0.332	<0.005	0.298



City of Carmel, Indiana
WWTP Flow Schematic
5/15/2013

Jones & Henry Engineers
3103 Executive Pkwy; Suite 300
Toledo, Ohio 43606



Location Map - Carmel, Indiana WWTP

From Fishers Quadrangle USGS Map

City of Carmel Utilities

July 27, 2018

Ms. Gabrielle Ghreichi
Indiana Department of Environmental Management
100 N. Senate Ave.
Indianapolis, Indiana 46204

Subject: Draft NPDES Permit No. IN0022497

Dear Ms. Ghreichi:

The City of Carmel has reviewed the draft NPDES permit that was recently issued. We are requesting that the requirement for annual whole effluent toxicity testing (WETT) be revised. The requirement for annual testing is presented in Part 1E on page 11. We request that the frequency of WETT be revised from annually to "prior to the next permit renewal" as was required in our previous NPDES permit. The basis of our request is listed in the following.

1. The fact sheet accompanying the draft NPDES permit states that the City of Carmel has one existing pretreatment source for metal finishing operations. The fact sheet also states that a non-delegated pretreatment program will typically require submittal of WETT results on an annual basis. The City does receive treated wastewater from Horton, Inc. The flow from this industry constitutes approximately 0.02%-0.04% of our average inflow at the wastewater treatment plant.
2. The characteristics of the wastewater from Horton, Inc. is metals. The majority of metals will be removed in the sludge and should not impact the WETT results.
3. The City of Carmel has certification from Horton, Inc. that they do not discharge concentrated toxic organics to the POTW therefore there should be little to no impact to the effluent from this industry.
4. The City of Carmel has not had a failed WETT result in more than 20 years.
5. The cost associated with WETT along within the disruption in laboratory routines and operations is not warranted.

We believe that Horton, Inc. does not present a reasonable potential for us to exceed toxicity in our treatment plant effluent, therefore we are requesting that the annual requirement of WETT analysis be removed from our NPDES Permit.

Respectfully,

John Duffy
Director of Utilities, City of Carmel

Enclosure: Horton, Inc. TTO Certification Statement

City of Carmel Utilities

John Duffy
Director of Utilities
July 26th, 2018

IDEM - OWQ
Municipal NPDES Permits Section
100 North Senate Avenue (MC 65-42)
Indianapolis, IN 46204-2251

RE: Draft NPDES Permit No. IN0022497
Attachment A: Sanitary Sewer Overflows, Table 3 (pg.47)

Ms. Gabrielle Ghreichi,

As discussed during our permit renewal meeting on 7/17/18, we request that the "Measurement Frequency Monitoring Requirement [1]" of SSO #002 be revised to appropriately reflect the operation and monitoring of SSO #002.

As currently worded in the Draft Permit, we are required to perform daily visual inspections of the outfall/discharge flow of SSO #002 (Flow Equalization Basin or EQ Basin) if precipitation accumulates to 0.25 inches or greater. However, this monitoring requirement is not necessary due to the advanced telemetry that is used to monitor the EQ Basin.

The EQ Basin is 130 feet in diameter by 15 feet tall and holds 1.39MG. It is operated in the following manner:

1) In the event of excessive precipitation, an alarm is activated in either one of two situations: (1) when the ground water level reaches a certain height or (2) when wastewater overflows the flume gate and enters the wet well.
2) Plant Operators receive the alarm via telemetry (desktop SCADA or cellphone application SCADA) and remotely open the flume gate that allows wastewater to enter the wet well.
3) Floats sensors in the wet well automatically activate one of two pumps that force the wastewater into the EQ Basin.
4) The EQ Basin level is monitored remotely via an ultrasonic level transducer and levels are telemetrically transmitted and reported every 15 minutes.
5) There is a high-level-warning float located at approximately 11 feet that will telemetrically alarm when 11 feet has been reached.
6) When the high-level-warning-alarm is activated, the basin fill pumps are automatically shut off.
7) When either (1) the ground-water-level ceases and its respective alarm ceases or (2) the high-level-alarm is transmitted, two valves are remotely opened on the EQ Basin and all contained wastewater is directed into the sanitary sewer.

Given that SSO #002 is extensively monitored and operated via remote telemetry that provides real-time operational details of the EQ Basin, including warning alarms, in addition to providing a historical record of EQ Basin levels reported at15-minute-intervals, we request that telemetric inspection be an acceptable means of monitoring and recording outfall discharges. Therefore, we suggest the following wording for the "Measurement Frequency Monitoring Requirement [1]" under Table 3 of "Attachment A: Sanitary Sewer Overflows:"

> *Permittee shall monitor discharges from each outfall listed above by visual or telemetric inspection of each listed outfall within 24 hours of receiving 0.25 inches of precipitation or greater within a 24 hour period as recorded at the nearest National Weather Service Reporting Station. Permittee shall maintain a record of each visual or telemetric inspection on-site for a period of (5) years. Records of the inspections shall be made available to IDEM and/or EPA staff upon request.*

If you have any questions pertaining to this request or any questions pertaining to the design, operation, utilization, or monitoring of SSO #002, please direct them to Tara Washington at twashington@carmel.in.gov. Your consideration of this request is greatly appreciated.

Sincerely,

John Duffy
Director of Utilities, City of Carmel

Enclosure: Example of EQ Basin Analog Report

City of Carmel Utilities

John Duffy
Director of Utilities
April 12th, 2018

IDEM - OWQ
Municipal NPDES Permits Section
100 North Senate Avenue (MC 65-42)
Indianapolis, IN 46204-2251

RE: Chlorides in the WWTP Effluent

Ms. Gabrielle Ghreichi,

As per the inquiry you Emailed to me on April 11th, 2018, I have information regarding the presence and monitoring of chlorides in the Carmel WWTP effluent.

The City of Carmel Water Utility processes ground water for drinking water distribution to the City's populace. One part of this process includes the softening of ground water. Similar to a residential water softener, the water softeners used at our Carmel Water Plants produce a brine solution that contains chlorides. Inevitably, (through populace usage and Water Plant discharge), a residual of these chlorides is distributed to the Carmel WWTP influent. Given that conventional activated-sludge-wastewater-treatment does not remove chlorides from wastewater, we know that chlorides are present in our WWTP effluent.

Therefore, the Carmel WWTP laboratory monitors the WWTP influent and effluent for chlorides. The lab analyzes chlorides in both matrices five times per week (M-F) using the Argentometric Method (SM 4500-Cl^- B.). Analytical data for chloride analysis is available from 1/1/14 to the present. In summation, the analytical averages are thus:

YEAR	INFLUENT (mg/L)	EFFLUENT (mg/L)
2014	545	544
2015	571	574
2016	579	572
2017	653	647
2018 (Annual Data Incomplete)	504	419

If you would like a complete compilation of our analytical data, I will provide that information.

Likewise, if you have any additional questions or concerns, please let me know. Your consideration is greatly appreciated.

Sincerely,

John Duffy
Director of Utilities, City of Carmel

City of Carmel Utilities

John Duffy
Director of Utilities
April 13th, 2018

IDEM - OWQ
Municipal NPDES Permits Section
100 North Senate Avenue (MC 65-42)
Indianapolis, IN 46204-2251

RE: 36-Month Phosphorus Limitation Compliance Schedule

Ms. Gabrielle Ghreichi,

The City of Carmel Wastewater Treatment Plant is requesting to receive a 36-month compliance schedule for meeting the total phosphorus limit of 1mg/L that will be issued in our NPDES Permit Renewal.

Although the management staff at the Carmel WWTP has been examining several options for reducing phosphorus in the effluent, we have not determined which solution is the most appropriate for our operation. We have researched various chemical-feed-compounds and pumping methods for a chemical precipitation solution. Likewise, we have researched numerous processes and technologies for the biological removal of phosphorus in the effluent. While we have discovered some viable options for meeting the phosphorus limitation, we have not determined a definitive solution.

The ultimate goal is to biologically remove phosphorus from our Plant effluent while utilizing a chemical-feed solution as a means of subsidization. Therefore, our current strategy to meet the 1mg/L total phosphorus limitation via biological phosphorus removal is outlined here:

1) Determine which chemical compound will be utilized for chemical phosphorus precipitation
2) Determine a feed solution (location and pumping technologies) for the chemical reagent
3) Implement chemical phosphorus removal to meet the 1 mg/L limitation
4) Continue to research biological phosphorus removal solutions
5) Implement a biological phosphorus removal solution that will meet the 1 mg/L limitation
6) Keep the chemical feed solution for phosphorus removal to subsidize the biological process when necessary

Given the amount of research, funding, engineering, and construction that is required for implementing a solution for biological phosphorus removal, the Carmel WWTP will need a 36-month compliance schedule to achieve the 1mg/L limitation.

If you need any additional information for consideration of this request, please feel free to contact me. Your consideration is greatly appreciated.

Sincerely,

John Duffy
Director of Utilities, City of Carmel

element™

Element Materials Technology
2417 West Pinhook Road
Lafayette, LA
70508-3344 USA

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info.lafayette@element.com
element.com

FRESH WATER BIOASSAY REPORT

FOR

City of Carmel
Wastewater Treatment Plant

NPDES NO.: IN0022497

REQUESTED BY: MS. TARA WASHINGTON
CITY OF CARMEL WWTP
9609 HAZEL DELL PARKWAY
INDIANAPOLIS, IN 46280

REPORTED BY: _____ 2/22/18
DIANNE BOURQUE — DATE
ADMINISTRATIVE ASSISTANT

APPROVED BY: _____ 2/26/18
KEVIN S. DISCHLER — DATE
OPERATIONS MANAGER, BIOASSAY SERVICES

THE RESULTS OF THIS ANALYSIS RELATE ONLY TO THE REFERENCED SAMPLE, AS IT WAS SUBMITTED TO ELEMENT MATERIALS TECHNOLOGY LAFAYETTE, LLC

STATE OF LOUISIANA LABORATORY ACCREDITATION CERTIFICATE NO. 01997

Job Number: 18020132

Total Pages in this report 36

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APPENDIX

element

EXECUTIVE SUMMARY

PERMITTEE: Carmel WWTP
DATE/TIME OF INITIAL SAMPLE: 02.05.18 @ 0840

Date/time tests started: *Ceriodaphnia dubia*: 02.06.18 @ 1124
Pimephales promelas: 02.06.18 @ 1052

The test concentrations were set up as per the permit at 0% (Control), 10%, 20%, 42.6%, 70%, and 100% of effluent.

Critical Dilution = 42.6%

TEST RESULTS ARE AS FOLLOWS:

***Ceriodaphnia dubia*:**
NOEC Survival: 100%
NOEC Reproduction: 100%

***Acute Results*:**
48 hr. LC_{50}: >100%
96 hr. LC_{50}: >100%

Pass or Fail Statement: The *Ceriodaphnia dubia* tests **PASS** the chronic and the acute requirements set by the permit.

***Pimephales promelas*:**
NOEC Survival: 100%
NOEC Growth: 100%

***Acute Results*:**
48 hr. LC_{50}: >100%
96 hr. LC_{50}: >100%

Pass or Fail Statement: The *Pimephales promelas* tests **PASS** the chronic and the acute requirements set by the permit.

Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet all requirements of NELAC.

I. Introduction:

1. NPDES Permit No.: IN0022497

2. Toxicity Testing Requirement of Permit:

   a. Chronic static renewal 7-day survival and reproduction test using *Ceriodaphnia dubia* (Method 1002.0).

   b. Chronic static renewal 7-day survival and growth test using fathead minnow (*Pimephales promelas*) (Method 1000.0).

c. Five dilutions in addition to an appropriate control (0% effluent) shall be used in the toxicity tests. These additional effluent concentrations shall be 10%, 20%, 42.6%, 70%, and 100%.

3. Plant Location: 9609 Hazel Dell Parkway

4. Name of Receiving Water Body: West Fork of the White River

5. Testing Facility: Element Materials Technology
   2417 West Pinhook Road
   Lafayette, LA 70508 (Ph. 337-237-7700)

II. PLANT OPERATIONS:

1. Products: N/A

2. Raw Materials: N/A

3. Operating Schedule: Continuous

4. Description of Waste Treatment: N/A

5. Retention Time: 24 hours

6. Volume of Waste Flow: 12 MGD

III. SOURCE OF EFFLUENT (AMBIENT) AND DILUTION WATER:

1. Effluent Samples:

   a. Sampling point: After Last Treatment Unit
   b. Collection dates and times:
      A. 02.04.18 @ 0840 TO 02.05.18 @ 0840
      B. 02.06.18 @ 0800 TO 02.07.18 @ 0800
      C. 02.08.18 @ 0835 TO 02.09.18 @ 0835

   c. Sample collection method: 24 hour composite

   d. Preservation: Chilled to <6° C

   e. Physical and chemical data: See Appendix A

2. Dilution Water Samples:

   a. Source: Moderately hard synthetic water.

   b. Collection date and time: N/A

   c. Pretreatment: None

   d. Preservation: None

   e. Physical and chemical characteristics: See Appendix B

IV. TEST METHODS:

A. *PIMEPHALES PROMELAS*:

1. Toxicity test method used: Method 1000.0, EPA-821-R-02-013
2. End points of test: Survival and growth
3. Deviations from reference method, if any, and the reason(s): None
4. Date and time test started: 02.06.18 @ 1052
5. Date and time test terminated: 02.13.18 @ 0730
6. Type of test chambers: 400ml plastic cups.
7. Volume of solution used/test chamber: 250ml
8. Number of organisms/test chamber: 10
9. Number of replicate test chambers/treatment: 5
10. Acclimation period and temperature of test organisms:
    02.06.18 @ 1010 = 24°C to 02.06.18 @ 1052 = 24° C
11. Test Temperature: 25° C

B. ***CERIODAPHNIA DUBIA***

1. Toxicity test method used: Method 1002.0, EPA-821-R-02-013
2. End points of test: Survival and reproduction
3. Deviations from reference method, if any, and the reason(s): None
4. Date and time test started: 02.06.18 @ 1124
5. Date and time test terminated: 02.14.18 @ 1230
6. Type of test chambers: 30ml plastic cups.
7. Volume of solution used/test chamber: 25ml
8. Number of organisms/test chamber: 1
9. Number of replicate test chambers/treatment: 10
10. Acclimation period and temperature of test organisms:
    02.06.18 @ 1010 = 25°C to 02.06.18 @ 1052 = 25° C
11. Test Temperature: 25° C

V. TEST ORGANISMS:

A. *Pimephales promelas*:

1. Scientific name: *Pimephales promelas*
2. Age: Less than 24 hours old.
3. Life Stage: Newly hatched fry.
4. Source: Element
5. Diseases and treatment: None.

B. *Ceriodaphnia dubia*:

1. Scientific name: *Ceriodaphnia dubia*
2. Age: <24 hours old.
3. Life stage: Neonate
4. Source: Element
5. Diseases and treatment: None.

VI. QUALITY ASSURANCE:

A. *Pimephales promelas:*

1. Standard toxicant used: Sodium Dodecyl Sulfate, Acros. Lot # B0137422
2. Date of most recent test: 01.23.18
3. Dilution water used in test: Synthetic moderately-hard
4. Results of test: NOEC Survival = 16 ppm
   NOEC Growth = 16 ppm
5. Physical and chemical test methods used: As required by test method.

B. *Ceriodaphnia dubia*:

1. Standard toxicant used: Potassium Chloride, Fisher Scientific, Lot #115601.
2. Date of most recent test: 11.09.17
3. Dilution water used in test: Synthetic moderately-hard
4. Results of test: NOEC Survival = 500 mg/L
   NOEC Reproduction = 250 mg/L
5. Physical and chemical test methods used: As required by test method.

APPENDIX A

Effluent physical and chemical data:

The chemical data is as follows:

Characteristics	Sample A	Sample B	Sample C
Temperature	1.7°C	0.6°C	0.6°C
PH	7.69	7.36	7.41
Conductivity	2326	2820	2976
Alkalinity	244	300	292
Hardness	260	460	510
Ammonia(ppm)	<0.5	<0.5	N/A
Chlorine(mg/L)	<0.1	<0.1	<0.1

The physical data is as follows:

Appearance	Pale Yellow	Pale Yellow	Pale Yellow

APPENDIX B

Dilution water Physical and Chemical Data :

The chemical data is as follows:

CERIODAPHNIA DUBIA TEST

Reconstituted moderately hard water –

pH = 8.0

DO = 7.9

Conductivity = 326

Alkalinity = 68

Hardness = 70

PIMEPHALES PROMELAS TEST

Reconstituted moderately hard water –

pH = 8.0

DO = 7.8

Conductivity = 354

Alkalinity = 68

Hardness = 70

APPENDIX C

RAW BIOLOGICAL DATA

from

***PIMEPHALES PROMELAS* CHRONIC TEST**

and

***CERIODAPHNIA DUBIA* CHRONIC TEST**

element

SLB-020

01-2010

P. promelas Survival Chart

Client Name: Carmel

Job Number: 18020132

Start Date/Time: 2/6/18 @ 1052

End Date/Time: 2/13/18 @ 0730

% Effluent Conc.	REPL NO	Day 0 SRV.	Day 1 SRV.	Day 2 SRV.	Day 3 SRV.	Day 4 SRV.	Day 5 SRV.	Day 6 SRV.	Day 7 SRV.
Conc.	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	9
10	A	10	10	10	9	9	9	9	9
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
20	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	9	9
	D	10	10	10 *	10 *	10	10	10	10
	E	10	10	10	10	10	10	10	10
42.6	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	9
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	8	8
	E	10	9	9	9	9	9	9	9
70	A	10	10	10	10	10	10	10	10
	B	10	10	10	10 *	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	9/10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
100	A	10	10	10	10	10	10	9	9
	B	10	10	10	10	10	10	9	9
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
	INITIALS	RR	AH	AD	RR	✓	M	M	RR

* = organism fell/jumped and was returned 2/10/18 ① RR

2/12/18 M (T)

element
SLB-004

04-2010

CHRONIC DATA SHEET A - METHOD 1000.0

Client Name: Carmel   Job Number: 1802032   Test Species: P. promelas

Percent Effluent	Physical Chemical	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Freshwater Media Batch#		FM 010118	Same	Same	Same	Same	Same	Same	Same
Control	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	8.0	7.9	7.5	7.8	7.9	7.7	7.8	7.5
	D.O. (End)	—	7.0	7.1	6.9	7.5	8.0	7.5	6.9
	D.O. (Start)	7.8	7.7	7.7	7.7	8.3	8.3	8.2	—
	Hardness	70	70	70	70	70	70	70	70
	Alkalinity	68	68	68	68	60	60	60	60
	Cond. (Start)	354							
10	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	7.9	7.9	7.5	7.8	7.9	7.7	7.7	7.6
	D.O. (End)	—	7.0	6.8	6.9	7.5	7.9	7.5	6.9
	D.O. (Start)	7.8	7.7	7.7	7.7	8.3	8.2	8.3	—
	Cond. (Start)	696							
20	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	7.8	7.9	7.6	7.8	7.9	7.7	7.8	7.6
	D.O. (End)	—	7.0	6.8	6.8	7.5	7.9	7.4	6.9
	D.O. (Start)	7.9	7.7	7.7	7.7	8.2	8.3	8.2	—
	Cond. (Start)	909							
42.6	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	7.8	7.9	8.2	7.8	7.9	7.7	8.0	7.7
	D.O. (End)	—	7.0	6.7	6.8	7.5	8.0	7.4	6.9
	D.O. (Start)	7.9	8.1	7.8	7.7	8.2	8.2	8.2	—
	Cond. (Start)	1413							
70	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	7.8	8.0	8.2	7.8	7.9	7.7	8.0	7.9
	D.O. (End)	—	7.0	6.8	6.7	7.6	8.0	7.4	6.9
	D.O. (Start)	8.2	8.3	7.9	7.8	8.1	8.1	8.1	—
	Cond. (Start)	2161							
100	Temp. (End)	25	25	24	25	25	25	25	25
	pH (End)	7.7	8.0	8.3	8.0	7.5	7.8	8.1	7.9
	D.O. (End)	—	7.0	6.9	6.7	7.7	8.1	7.3	6.9
	D.O. (Start)	8.4	8.4	7.9	7.8	8.3	8.0	8.1	—
	Cond. (Start)	2874							
	Effluent pH	7.7	7.7	7.9	7.6	7.5	7.5	7.4	—
	Effluent DO	8.5	8.5	7.9	8.4	8.4	8.0	8.1	—
	Effluent Sample	A	A	A	B	B	C	C	C
	Date/Time Renewal	2/6/18 @1032	2/7/18 @1120	02-08-18 @1250	2-9-18 @1336	2/10/18 @0734	2/11/18 @1004	2/12/18 @0802	2/13/18 @0710
	INIT	RH	RH	ws	RH	[illegible]	[illegible]	[illegible]	RH

element

SLB-006

Nov-09

Ceriodaphnia dubia Reproduction Data Job Number: 18020132

Effluent Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	Total Live Young	Number of Live Adults	Most young by Any One Adult	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	0	0	0	0	0	0	0	0	0	0	0	10	0	
Control	5	6	3	0	6	3	3	0	5	3	4	33	10	6	
	6	0	5	0	3	6	5	3	0	0	0	22	10	6	
	7	7	(7)	0	(8)	7	8	4	0	10	10	61	10	10	
	8	6	(1)	0	(2)	(0)	(1)	6	15	6	5	58	10	10	Rs 0 2/14/18
Total		19	16	0	19	16	16	13	26	19	19	157	10	20	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	3	0	2	0	0	0	1	0	(2)	(2)	10	10	3	
10	5	6	4	0	0	0	4	0	0	(6)	(2)	22	10	6	
	6	0	9	0	0	0	0	0	0	0	0	9	10	9	
	7	0	9	4	11	10	12	7	(1)	6	3	63	10	12	
	8	7	(8)	15	6	6	6	7	(2)	7	11	75	10	15	
Total		16	30	21	17	16	22	15	3	21	18	179	10	30	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	(2)	0	(2)	0	0	(1)	0	0	2	3	10	10	3	
20	5	(6)	0	(4)	0	(1)	(5)	08	5	0	9	34	10	9	N 2/11/18 T
	6	10	6	0	8	(10)	6	0	0	0	0	24	10	10	
	7	(10)	5	11	7	12	13	5	10	5	(6)	84	10	13	
	8	(2)	9	9	7	10	11	11	10	7	(4)	87	10	11	
Total		30	30	30	22	37	30	16	25	14	29	239	10	33	Rs (0) 2/14/18
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	3	0	(2)	0	0	0	0	3	4	3	15	10	4	
42.6	5	6	0	(6)	0	4	8	5	5	8	7	49	10	8	
	6	0	4	0	6	0	0	9	0	0	0	19	10	9	
	7	12	9	13	8	8	7	12	9	11	9	98	10	13	
	8	(10)	8	7	7	0	10	(11)	(12)	(13)	(11)	89	10	13	
Total		31	21	28	21	12	25	37	29	36	30	370	10	36	Ro (F) 2/19/18
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	3	0	(4)	0	0	3	4	(2)	3	(2)	19	10	4	
70	5	7X5	03	8X7	03	0	5	7	(5)	0	(6)	46	10	8	N 2/10/18 (T)
	6	07	8	0	9	6	0	0	0	0	0	23	10	9	
	7	(7)	0	5	4	10	0	(7)	8	8	9	58	10	10	
	8	(10)	10	10	11	15	17	(8)	9	12	9	111	10	17	
Total		27	21	24	27	31	28	26	24	23	26	257	10	31	Rn 2/19/18
	3	0	0	0	0	0	0	0	0	0	0	0	10	0	
	4	0	0	0	0	0	0	(3)	0%	3	0	5	10	3	
100	5	8	3	4	0	3	6	(0)	5	4	4	43	10	8	
	6	0	0	0	0	3	1	0	0	0	9	13	10	9	
	7	4	6	4	8	(7)	0	(7)	3	(5)	7	51	10	8	
	8	6	7	0	0	(0)	2	(1)	6	(12)	0	40	10	13	
Total		18	16	8	8	18	9	16	14	25	20	152	10	25	

SLB-006 Ceriodaphnia dubia Reproduction Data

2/12/18 N (T)

N 2/11/18 (T)

N 2/10/18 (T)

element

SLB-005

11-2009

Job Number: 18020132

Ceriodaphnia dubia Survival Data

Effluent Conc.	Day	Replicate										Total Live Adults
		A	B	C	D	E	F	G	H	I	J	
Control	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
10	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
20	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
42.6	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
70	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
100	1	1	1	1	1	1	1	1	1	1	1	10
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10

Technician: Day 1: RB

Day 2: MG

element

SLB-003

03-2010

CHRONIC DATA SHEET A - METHOD 1002.0

Client Name: Carnel   Job Number: 18020112   Test Species: C. dubia

Percent Effluent	Physical Chemical	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
Freshwater Media Batch #		FM 020218	Same	Same	Same	020201SP	Same	Same	FM 021218	Same
0% Control	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	8.0	7.8	7.9	8.0	7.4	7.7	8.0	7.9	8.0
	D.O. (End)		9.4	8.8	9.4	8.1	9.0	8.0	7.8	8.5
	D.O. (Start)	7.9	7.7	8.0	7.9	8.4	8.5	8.5	7.9	
	Hardness	70	70	70	70	70	70	70	70	
	Alkalinity	68	68	68	68	60	60	60	68	
	Cond. (Start)	326								
10	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	7.9	7.8	8.0	8.2	7.4	8.0	8.0	7.9	8.0
	D.O. (End)		9.4	7.8	9.4	8.2	9.0	7.9	7.8	8.5
	D.O. (Start)	8.0	7.7	8.1	7.9	8.4	8.5	8.5	7.9	
	Cond. (Start)	612								
20	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	7.9	7.8	8.1	8.2	7.8	8.1	8.0	7.9	8.0
	D.O. (End)		9.4	7.8	9.4	8.0	9.0	8.1	7.8	8.5
	D.O. (Start)	8.0	7.7	7.8	7.9	8.3	8.4	8.4	8.0	
	Cond. (Start)	873								
42.6	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	7.9	7.9	8.2	8.2	7.8	8.1	8.1	7.9	8.2
	D.O. (End)		9.4	8.2	9.4	8.2	8.5	8.0	8.0	8.5
	D.O. (Start)	8.2	8.0	7.9	7.9	8.2	8.2	8.2	8.0	
	Cond. (Start)	1348								
70	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	7.8	8.1	8.4	8.2	7.4	8.1	8.3	8.0	8.1
	D.O. (End)		9.4	8.1	9.4	8.0	8.3	7.9	8.1	8.5
	D.O. (Start)	8.2	8.2	8.3	7.9	8.1	7.9	8.1	8.1	
	Cond. (Start)	2071								
100	Temp. (End)	25	25	26	25	25	25	25	25	25
	pH (End)	7.8	8.2	8.4	8.2	7.9	8.2	8.3	8.2	8.2
	D.O. (End)		9.4	8.4	9.4	8.2	8.6	7.9	8.0	8.5
	D.O. (Start)	8.4	8.4	7.6	7.8	8.3	8.0	8.0	8.1	
	Cond. (Start)	2782								
	Effluent pH	7.7	7.7	7.9	7.6	7.5	7.5	7.4	7.4	
	Effluent D.O.	8.5	8.5	7.9	8.4	8.4	8.0	8.1	8.2	
	Effluent Sample	A	A	B	B	B	C	C	C	
	Date/Time Renewal	2/6/18 @1124	2/7/18 @1255	02-08-18 @1222	2-9-18 @1240	2/10/18 @0750	2/11/18 @1430	2/12/18 @0815	2-13-18 @1111	2-14-18 @1230
	INIT	RP	RP	MG	RP	[illegible]	[illegible]	[illegible]	RH	RH

Effluent pH Range: 6.0-9.0
DO Start: 4.0-8.5 mg/L
Effluent DO: 4.0-8.5 mg/L

Temperature Range: 25±1°C
DO (End): ≥4.0mg/L

APPENDIX D

DATA ON RESULTS

TABLE 1 (Sheet 1 of 4)

Permittee: Carmel WWTP
NPDES Permit No.: IN0022497

***Ceriodaphnia dubia* Survival and Reproduction**

Dates Composites Collected:

A. 02.04.18 @ 0840 TO 02.05.18 @ 0840
B. 02.06.18 @ 0800 TO 02.07.18 @ 0800
C. 02.08.18 @ 0835 TO 02.09.18 @ 0835

Test initiated (date/time): 02.06.18 @ 1124

Dilution water used: ____ Receiving water X Reconstituted water

NUMBER OF YOUNG PRODUCED PER FEMALE @ 7 DAYS

	Percent effluent (%)					
REP.	Cont.	10	20	42.6	70	100
A	19	16	20	31	27	18
B	16	30	20	21	21	16
C	0	21	30	28	24	8
D	19	17	22	21	27	8
E	16	16	33	12	31	18
F	16	22	30	25	28	9
G	13	15	16	37	26	16
H	20	3	25	29	24	14
I	19	21	14	36	23	25
J	19	18	29	30	26	20
CV%	37.8	38.2	27.1	21.8	11.0	34.7

- COEFFICIENT OF VARIATION = STANDARD DEVIATION X 100/MEAN
- PMSD= 35.4%

TABLE 1 (Sheet 2 of 4)

Permittee: Carmel WWTP
NPDES Permit No.: IN0022497

1. Dunnett's Test as appropriate:
Is the mean number of young produced per female significantly less (p=0.05) than the control's number of young produced per female for low flow or critical dilution (42.6%)? __YES __X_NO

If you report NO, enter a 0 on the DMR form, Parameter No. TGP3B. Otherwise, enter a 1.

PERCENT SURVIVAL

Percent effluent (%)

Time of Reading	0	10	20	42.6	70	100
24 hr.	100	100	100	100	100	100
48 Hr.	100	100	100	100	100	100
Test end	100	100	100	100	100	100

2. Fisher Exact/Bonferroni-Holm Test - Low Flow Lethality

Is the mean survival at test end significantly less (p=0.05) than the control's survival at the low flow or critical dilution (42.6%)? __YES __X_NO

If you report NO, enter a 0 on the DMR form, Parameter No. TLP3B. Otherwise, enter a 1.

3. Enter percent effluent corresponding to each NOEC (no observed effect concentration) for *Ceriodaphnia dubia* below:

a. NOEC Survival (Parameter No. TOP3B) = **100%**

b. NOEC Reproduction (Parameter No. TPP3B) = **100%**

4. Larger coefficient of variation of low flow and control dilutions: **37.8%**

element

TABLE 1 (Sheet 3 of 4)

Permittee: Carmel WWTP
NPDES Permit No.: IN0022497

***Fathead Minnow* Larvae Growth and Survival**

Dates Composites Collected:

A. 02.04.18 @ 0840 TO 02.05.18 @ 0840
B. 02.06.18 @ 0800 TO 02.07.18 @ 0800
C. 02.08.18 @ 0835 TO 02.09.18 @ 0835

Test initiated(date/time): 02.06.18 @ 1052

Dilution water used: _____ Receiving water __X__Reconstituted water

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Concent. (%)	Average dry weight in milligrams in Replicate Chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0	0.564	0.555	0.618	0.634	0.492	0.573	9.85
10	0.646	0.553	0.510	0.558	0.654	0.584	10.8
20	0.715	0.670	0.578	0.591	0.517	0.614	12.8
42.6	0.632	0.605	0.733	0.677	0.537	0.637	11.6
70	0.636	0.539	0.792	0.572	0.628	0.633	15.4
100	0.588	0.549	0.911	0.789	0.651	0.698	21.5

- COEFFICIENT OF VARIATION = STANDARD DEVIATION X 100/MEAN
- *Fathead Minnow* Growth PMSD Value = 24.0%

4. Dunnett's Procedure:

Is the mean dry weight (growth) at 7 days significantly less (p=0.05) than the control's dry weight (growth) for the low flow or critical dilution (42.6%)? __X__YES ___NO

If you report NO, enter a 0 on the DMR form, Parameter No. TLP6C. Otherwise, enter a 1.

TABLE 1 (Sheet 4 of 4)

Permittee: Carmel WWTP
NPDES Permit No.: IN0022497

DATA TABLE FOR *FATHEAD MINNOW* SURVIVAL

Effluent Concent. (%)	Percent survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24 HR	48 HR	7 DAYS	
0	100	100	100	100	90	100	100	98	5.28
10	90	100	100	100	100	100	100	98	5.28
20	100	100	90	100	100	100	100	98	5.28
42.6	100	90	100	80	90	98	98	92	10.0
70	100	100	100	100	100	100	100	100	0.0
100	90	90	100	100	100	100	100	96	6.63

- COEFFICIENT OF VARIATION = STANDARD DEVIATION X 100/MEAN

5. Steel's Many-One Rank test as appropriate - Low Flow Lethality

Is the mean survival at 7 days significantly less (p=0.05) than the control's survival at the low flow or critical dilution (42.6%)? __YES __X_NO

If you report NO, enter a 0 on the DMR form, Parameter No. TGP6C. Otherwise, enter a 1.

7. Enter percent effluent corresponding to each NOEC (no observed effect concentration) for fathead minnows below:

a. NOEC Survival (Parameter No. TOP6C) = **100%**

b. NOEC Growth (Parameter No. TPP6C) = **100%**

7. Larger coefficient of variation of low flow and control dilutions: **11.6%**

CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test

Element

Analysis ID:	11-5875-5598	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	15 Feb-18 17:34	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes
Batch ID:	17-8976-5562	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	15 Feb-18 17:26	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	06 Mar-18	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	18d 7h	Source:	Element	Age:	
Sample ID:	08-1621-1436	Code:	FW7CD	Client:	Carmel
Sample Date:	05 Feb-18	Material:	POTW Effluent	Project:	Special Studies
Receive Date:	06 Feb-18	Source:	NPDES Permit # (XX99999999)		
Sample Age:	10d 17h	Station:			

Sample Note: Outfall 001

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU
Untransformed		C > T	NA	NA	100	>100	NA	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	C-%	Test Stat	P-Value	P-Type	Decision(α:5%)
Lab Water		10	1	1.0000	Exact	Non-Significant Effect
		20	1	1.0000	Exact	Non-Significant Effect
		42.6	1	1.0000	Exact	Non-Significant Effect
		70	1	1.0000	Exact	Non-Significant Effect
		100	1	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria

Data Summary

C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Lab Water	10	0	10	1	0	0.0%
10		10	0	10	1	0	0.0%
20		10	0	10	1	0	0.0%
42.6		10	0	10	1	0	0.0%
70		10	0	10	1	0	0.0%
100		10	0	10	1	0	0.0%

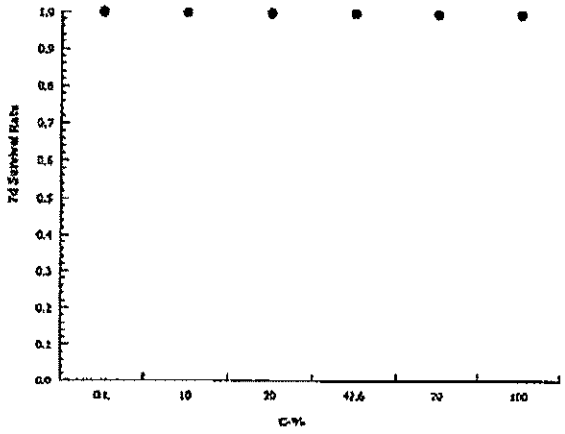
7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Lab Water	1	1	1	1	1	1	1	1	1	1
10		1	1	1	1	1	1	1	1	1	1
20		1	1	1	1	1	1	1	1	1	1
42.6		1	1	1	1	1	1	1	1	1	1
70		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

Ceriodaphnia 7-d Survival and Reproduction Test — Element

Analysis ID:	11-5875-5598	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	15 Feb-18 17:34	Analysis:	STP 2x2 Contingency Tables	Official Results:	Yes

Graphics



CETIS Analytical Report

Ceriodaphnia 7-d Survival and Reproduction Test

Element

Analysis ID:	12-2885-9199	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.7
Analyzed:	15 Feb-18 17:34	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes
Batch ID:	17-8976-5582	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	15 Feb-18 17:26	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	06 Mar-18	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	18d 7h	Source:	Element	Age:	
Sample ID:	08-1621-1436	Code:	FW7CD	Client:	Carmel
Sample Date:	05 Feb-18	Material:	POTW Effluent	Project:	Special Studies
Receive Date:	06 Feb-18	Source:	NPDES Permit # (XX99999999)		
Sample Age:	10d 17h	Station:			

Sample Note: Outfall 001

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C > T	NA	NA	35.4%	100	>100	NA	1

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Lab Water		10	-0.9054	2.289	5.562	18	0.9794	CDF	Non-Significant Effect
		20	-2.983	2.289	5.562	18	1.0000	CDF	Non-Significant Effect
		42.6	-2.305	2.289	5.562	18	0.9999	CDF	Non-Significant Effect
		70	-4.116	2.289	5.562	18	1.0000	CDF	Non-Significant Effect
		100	0.2881	2.289	5.562	18	0.7340	CDF	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	15.7	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.3543	0.11 - 0.47	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	901.15	180.23	5	6.105	0.0001	Significant Effect
Error	1594.1	29.52037	54			
Total	2495.25		59			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	6.925	15.09	0.2262	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9632	0.9459	0.0674	Normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	10	15.7	11.46	19.94	17.5	0	20	1.874	37.75%	0.0%
10		10	17.9	13.01	22.79	17.5	3	30	2.163	38.2%	-14.01%
20		10	22.9	18.46	27.34	21	14	33	1.983	27.11%	-45.86%
42.6		10	21.3	17.98	24.62	21	12	28	1.469	21.8%	-35.67%
70		10	25.7	23.68	27.72	26	21	31	0.895	11.01%	-63.69%
100		10	15	11.28	18.72	16	8	23	1.647	34.71%	4.46%

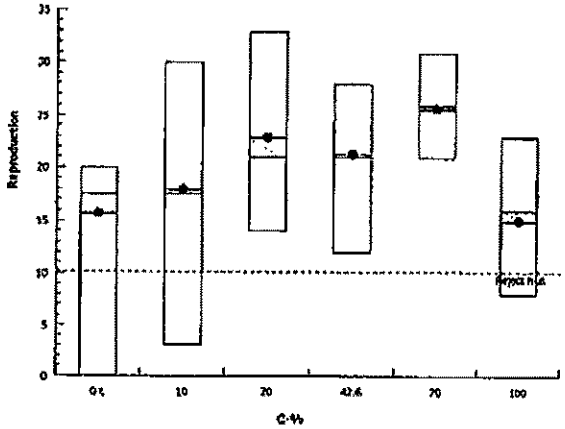
Reproduction Detail

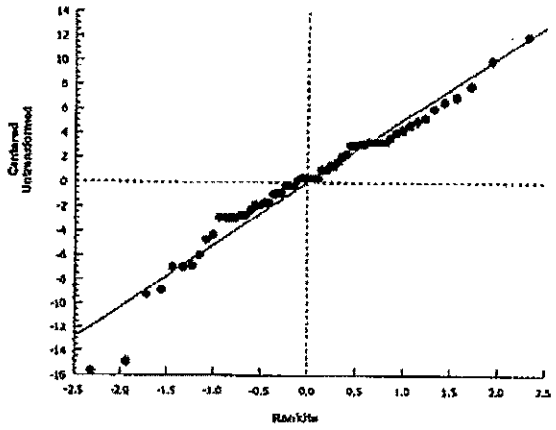
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Lab Water	19	16	0	19	16	16	13	20	19	19
10		16	30	21	17	16	22	15	3	21	18
20		20	20	30	22	33	20	16	25	14	29
42.6		21	21	28	21	12	25	26	17	23	19
70		27	21	24	27	31	28	26	24	23	26
100		18	16	8	8	18	9	16	14	23	20

Ceriodaphnia 7-d Survival and Reproduction Test Element

Analysis ID:	12-2885-9199	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.8.7
Analyzed:	15 Feb-18 17:34	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





CETIS Analytical Report

Fathead Minnow 7-d Larval Survival and Growth Test

Element

Analysis ID:	02-6810-7744	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.8.7
Analyzed:	15 Feb-18 17:38	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes
Batch ID:	10-7827-6256	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	15 Feb-18 17:35	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	08 Mar-18	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	18d 6h	Source:	Element	Age:	
Sample ID:	03-4185-1554	Code:	Fw7FHM	Client:	Carmel
Sample Date:	05 Feb-18 17:35	Material:	POTW Effluent	Project:	Special Studies
Receive Date:	06 Feb-18	Source:	NPDES Permit # (XX99999999)		
Sample Age:	10d 0h	Station:			

Sample Note: Outfall 001

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Angular (Corrected)	NA	C > T	NA	NA	7.7%	100	>100	NA	1

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Water		10	27.5	16	2	8	0.8333	Asymp	Non-Significant Effect
		20	27.5	16	2	8	0.8333	Asymp	Non-Significant Effect
		42.6	22	16	2	8	0.3476	Asymp	Non-Significant Effect
		70	30	16	1	8	0.9446	Asymp	Non-Significant Effect
		100	25	16	2	8	0.6363	Asymp	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.98	0.8 - NL	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.04710243	0.009420484	5	1.395	0.2616	Non-Significant Effect
Error	0.1620926	0.006753859	24			
Total	0.209195		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Mod Levene Equality of Variance	1.121	4.248	0.3845	Equal Variances
Variances	Levene Equality of Variance	3.436	3.895	0.0175	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.8795	0.9031	0.0027	Non-normal Distribution

7d Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	5	0.98	0.9245	1	1	0.9	1	0.02	4.56%	0.0%
10		5	0.98	0.9245	1	1	0.9	1	0.02	4.56%	0.0%
20		5	0.98	0.9245	1	1	0.9	1	0.02	4.56%	0.0%
42.6		5	0.92	0.8161	1	0.9	0.8	1	0.03742	9.09%	6.12%
70		5	1	1	1	1	1	1	0	0.0%	-2.04%
100		5	0.96	0.892	1	1	0.9	1	0.02449	5.71%	2.04%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.0%
10		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.0%
20		5	1.379	1.289	1.47	1.412	1.249	1.412	0.03259	5.28%	0.0%
42.6		5	1.286	1.126	1.446	1.249	1.107	1.412	0.05765	10.03%	6.78%
70		5	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	-2.36%
100		5	1.347	1.236	1.458	1.412	1.249	1.412	0.03992	6.63%	2.36%

Fathead Minnow 7-d Larval Survival and Growth Test

Element

Analysis ID: 02-6810-7744 Endpoint: 7d Survival Rate CETIS Version: CETISv1.8.7
Analyzed: 15 Feb-18 17:38 Analysis: Nonparametric-Control vs Treatments Official Results: Yes

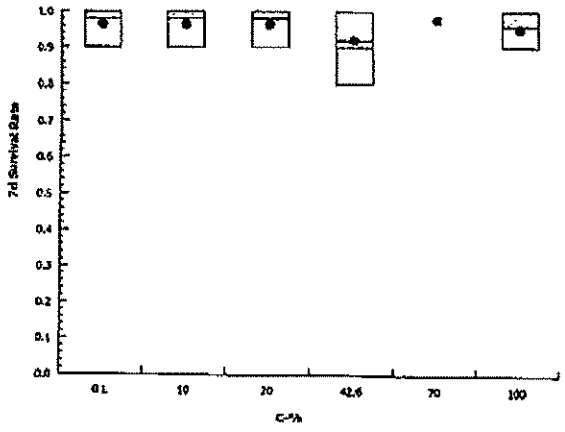
7d Survival Rate Detail

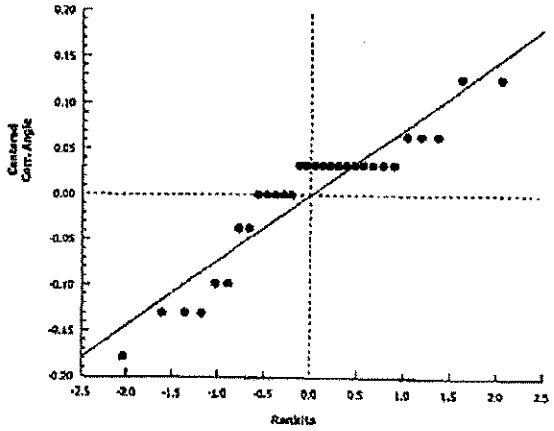
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Lab Water	1	1	1	1	0.9
10		0.9	1	1	1	1
20		1	1	0.9	1	1
42.6		1	0.9	1	0.8	0.9
70		1	1	1	1	1
100		0.9	0.9	1	1	1

Angular (Corrected) Transformed Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Lab Water	1.412	1.412	1.412	1.412	1.249
10		1.249	1.412	1.412	1.412	1.412
20		1.412	1.412	1.249	1.412	1.412
42.6		1.412	1.249	1.412	1.107	1.249
70		1.412	1.412	1.412	1.412	1.412
100		1.249	1.249	1.412	1.412	1.412

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test

Element

Analysis ID:	14-5641-4406	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.8.7
Analyzed:	15 Feb-18 17:38	Analysis:	Parametric-Control vs Treatments	Official Results:	Yes
Batch ID:	10-7827-6256	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	15 Feb-18 17:35	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	06 Mar-18	Species:	Pimephales promelas	Brine:	Not Applicable
Duration:	18d 6h	Source:	Element	Age:	
Sample ID:	03-4185-1554	Code:	Fw7FHM	Client:	Carmel
Sample Date:	05 Feb-18 17:35	Material:	POTW Effluent	Project:	Special Studies
Receive Date:	06 Feb-18	Source:	NPDES Permit # (XX99999999)		
Sample Age:	10d 0h	Station:			

Sample Note: Outfall 001

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU
Untransformed	NA	C > T	NA	NA	24.0%	100	>100	NA	1

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Lab Water		10	-0.1994	2.362	0.137	8	0.8855	CDF	Non-Significant Effect
		20	-0.7151	2.362	0.137	8	0.9644	CDF	Non-Significant Effect
		42.6	-1.104	2.362	0.137	8	0.9876	CDF	Non-Significant Effect
		70	-1.045	2.362	0.137	8	0.9853	CDF	Non-Significant Effect
		100	-2.149	2.362	0.137	8	0.9996	CDF	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.5726	0.25 - NL	Yes	Passes Acceptability Criteria
PMSD	0.2399	0.12 - 0.3	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.04993348	0.009986696	5	1.18	0.3478	Non-Significant Effect
Error	0.2030341	0.008459754	24			
Total	0.2529676		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	5.109	15.09	0.4027	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9701	0.9031	0.5409	Normal Distribution

Mean Dry Biomass-mg Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	5	0.5726	0.5026	0.6426	0.564	0.492	0.634	0.02521	9.85%	0.0%
10		5	0.5842	0.506	0.6624	0.558	0.51	0.654	0.02816	10.78%	-2.03%
20		5	0.6142	0.5169	0.7115	0.591	0.517	0.716	0.03505	12.76%	-7.27%
42.6		5	0.6368	0.545	0.7285	0.632	0.537	0.733	0.03306	11.61%	-11.21%
70		5	0.6334	0.5126	0.7542	0.628	0.539	0.792	0.04352	15.36%	-10.62%
100		5	0.6976	0.5112	0.884	0.651	0.549	0.911	0.05714	21.52%	-21.83%

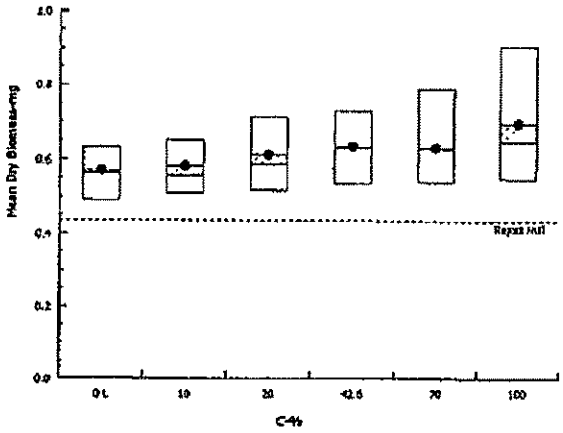
Mean Dry Biomass-mg Detail

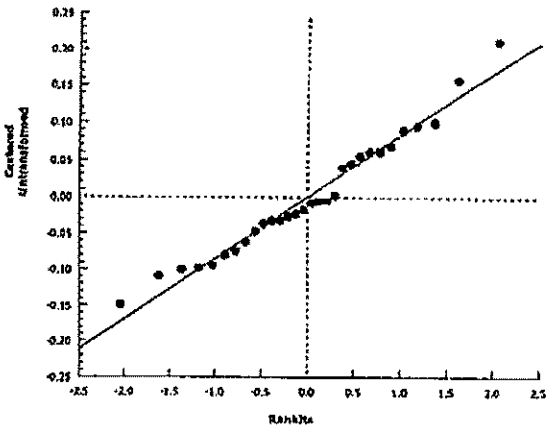
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Lab Water	0.564	0.555	0.618	0.634	0.492
10		0.646	0.553	0.51	0.558	0.654
20		0.716	0.67	0.578	0.591	0.517
42.6		0.632	0.605	0.733	0.677	0.537
70		0.636	0.539	0.792	0.572	0.628
100		0.588	0.549	0.911	0.789	0.651

Fathead Minnow 7-d Larval Survival and Growth Test — Element

Analysis ID:	14-5641-4406	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.8.7
Analyzed:	15 Feb-18 17:38	**Analysis:**	Parametric-Control vs Treatments	**Official Results:**	Yes

Graphics





element

APPENDIX E

FIELD REPORT
AND
CHAIN OF CUSTODY FORMS

element

Chain of Custody

Laboratory Number: 1802032

Client Information:	Billing Information:	PO Number:	Project Name/Number:	Page of
Company Name: Logansport WWTP		218073		
Contact Name: Tara Washington		Quote Number: 4007		
Address: 4609 Hazel Dell Pkwy		Required QC Level	Sampler's Signature:	
City, State Zip: Logansport, IN 46947				
Phone Number: 574 753 2634 Ext: 1630	Ext:	Bill Monthly ☐Yes ☐No	Shipping Method: UPS / (FedEx) NOW DHL / Element / Hand / Mail	
Fax Number:				
E-mail Address: twashington@logansport.in.gov				

Matrix Code
DW = Drinking Water
WW = Waste Water
GW = Ground Water
AQ = Aqueous
OT = Other
SL = Sludge SOL = Solid
O = Oil SO = Soil
F = Food SW = Swab
NG = Natural Gas
NGL = Natural Gas Liquid
PW = Produced Water
CF = Completion Fluid

Which Regulations Apply:
☐RCRA ☐Drinking Water
☐POTW ☐Distribution
☒NPDES ☐Special
☐USDA/FDA ☐State
☐RECAP/RISC ☐Other

Turn Time
☐Standard
RUSH
☐1 Day
☐2 Day
☐Other
(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Container: Type P=Plastic, G=Glass, V=Vial	Pres.: HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	Requested Tests: Bioassay	Requested Tests: Cl2 Res	Comments
Final Effluent	2-5-18	8:40A	COMP	WW	3	P	N/A	X		

	Relinquished by	Date/Time	Received by	Date/Time
1	Kellie Kilton	2-5-18 8:40A	T. WASHINGTON	2-5-18 2:40A
2	T. WASHINGTON	2-5-18 10:00A		
3	Fed Ex	2-6-18 0855		2-6-18 0855

Field Notes:

Received at lab on ice? JH
☑Yes ☐No Temp: 1.7°C

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

9301 Innovation Drive, Suite 115, Dayville, IN 47334-0569 USA, P 765-378-4103, F 765-378-4109
629 Washington St. Suite 300, Columbus, IN 47201-6231 USA, P 812-375-0531, F 812-375-0731
328 Loy Road, Suite 100, Fort Wayne, IN 46825 USA, P 260-471-7800, F 260-471-7777
909 Executive Dr, Warsaw, IN 46580-2368 USA, P 574-267-3305, F 574-269-6569
3371 Cleveland Road, Suite 108A, South Bend, IN 46628-9780 USA, P 574-277-0707, F 574-273-5699
2417 W. Pinhook Rd, Lafayette, LA 70508-3344 USA, P 337-235-0483, F 337-233-6540

element™

Chain of Custody

Laboratory Number:

Client Information:		Billing Information:	PO Number: S18073	Project Name/Number:	Page of
Company Name:	Carmel WWTP		Quote Number: 4007	Sampler's Signature: [signature]	**Matrix Code**
Contact Name:	Tara Washington		Required QC Level		DW = Drinking Water; WW = Waste Water; GW = Ground Water; AQ = Aqueous; OT = Other; SL = Sludge; SOL = Solid; O = Oil; SO = Soil; F = Food; SW = Swab; NG = Natural Gas; NGL = Natural Gas Liquid; PW = Produced Water; CF = Completion Fluid
Address:	9600 Hazel Dell Pkwy.		Bill Monthly ☐Yes ☐No	Shipping Method: UPS / (FedEx) / NOW; DHL / Element / Hand / Mail	
City, State Zip:	Indianapolis, IN 46280				
Phone Number:	317 571 2634 Ext: 1630	Ext:			
Fax Number:					
E-mail Address:	twashington@carmel.in.gov				

Which Regulations Apply: ☐RCRA ☐POTW ☒NPDES ☐USDA/FDA ☐RECAP/RISC ☐Drinking Water ☐Distribution ☐Special ☐State ☐Other

Turn Time ☐Standard RUSH ☐1 Day ☐2 Day ☐Other (Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Date	Time	Grab / Composite	Matrix	Quantity	Type P=Plastic, G=Glass, V=Vial	Pres. HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	Requested Tests: Bioassay (WETT)	Comments
Final Effluent	2-7-18	8:00A	Comp	WW	2	P	NA	X	

	Relinquished by	Date/Time	Received by	Date/Time
1	[signature]	2-7-18 8:24A	T. Washington	2-7-18 8:30A
2	T. Washington	2-7-18 10:00A		
3	Fed Ex	2/8/18 0900	[signature]	2/8/18 0900

Field Notes:

Received at lab on ice? ☒Yes ☐No Temp: 6.6°C

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

2/8/18 0920 2/8/18 0920

9301 Innovation Drive, Suite 115, Daleville, IN 47334-0569 USA, P 765-378-4103, F 765-378-4109

629 Washington St. Suite 300, Columbus, IN 47201-6231 USA, P 812-375-0531, F 812-375-0731

328 Ley Road, Suite 100, Fort Wayne, IN 46825 USA, P 260-471-7000, F 260-471-7777

909 Executive Dr, Warsaw, IN 46580-2368 USA, P 574-267-3305, F 574-269-6569

3371 Cleveland Road, Suite 100A, South Bend, IN 46628-9780 USA, P 574-277-0707, F 574-273-5699

2417 W. Pinhook Rd, Lafayette, LA 70508-3344 USA, P 337-235-0483, F 337-233-6540

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Chain of Custody

Laboratory Number:

Client Information:	Billing Information:	PO Number:	Project Name/Number:	Page of
Company Name: City of Carmel WWTP		318073		**Matrix Code**
Contact Name: TARA WASHINGTON		Quote Number: 4007		DW = Drinking Water WW = Waste Water GW = Ground Water AQ = Aqueous OT = Other SL = Sludge SOL = Solid O = Oil SO = Soil F = Food SW = Swab NG = Natural Gas NGL = Natural Gas Liquid PW = Produced Water CF = Completion Fluid
Address: 9609 Hazel Dell Pkwy		Required QC Level	Sampler's Signature	
City, State Zip: Indianapolis, IN 46280				
Phone Number: 317 571 2654 Ext: x 1630	Ext:	Bill Monthly ☐Yes ☐No	Shipping Method: UPS / (FedEx) / NOW DHL / Element / Hand / Mail	
Fax Number:				
E-mail Address: twashington@carmel.in.gov				

Which Regulations Apply:
☐RCRA ☐Drinking Water
☐POTW ☐Distribution
☒NPDES ☐Special
☐USDA/FDA ☐State
☐RECAP/RISC ☐Other

Turn Time
☐Standard
RUSH
☐1 Day
☐2 Day
☐Other
(Rush turn times will incur a surcharge and must be pre-approved by lab.)

Sample ID/Description	Collection Information: Date	Time	Grab / Composite	Matrix	Container: Quantity	Container: Type P=Plastic, G=Glass, V=Vial	Pres.: HCl, HNO_3, H_2SO_4, NaOH, $Na_2S_2O_3$	Requested Tests: Bioassay (WET)	Comments
Final Effluent	2-9-18	8:35A	Comp	WW	2	P	N/A	X	

	Relinquished by	Date/Time	Received by	Date/Time
1	Lonnie Patton	2-9-18 8:49A	T. Washington	2-9-18 8:50A
2	Tara Washington	2-9-18 10:00A		
3	FED EX	2-10-18 @ 0900		2-10-18 @ 0900

Field Notes:

Received at lab on ice? ☒Yes ☐No Temp: 0.1°C

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

9301 Innovation Drive, Suite 115, Daleville, IN 47334-0569 USA, P 765-378-4103, F 765-378-4109
629 Washington St. Suite 300, Columbus, IN 47201-6231 USA, P 812-375-0531, F 812-375-0731
328 Ley Road, Suite 100, Fort Wayne, IN 46825 USA, P 260-471-7000, F 260-471-7777
909 Executive Dr, Warsaw, IN 46580-2368 USA, P 574-267-3305, F 574-269-6569
3371 Cleveland Road, Suite 100A, South Bend, IN 46628-9780 USA, P 574-277-0707, F 574-273-5699
2417 W. Pinhook Rd, Lafayette, LA 70508-3344 USA, P 337-235-0483, F 337-233-6549

APPENDIX F

QUALITY ASSURANCE:

1. EFFLUENT SAMPLING AND HANDLING: Three composite samples were collected over a 24 hour period at intervals relative to the 7 day test cycle. These intervals are normally on day one, day three and day five.The samples were composited upon receipt at the lab prior to testing. Immediately after collection, the samples were chilled to a temperature of 4° C and maintained at that temperature until used for the test.

2. RECEIVING WATER SAMPLING AND HANDLING:
   Receiving water is taken as a grab sample prior to the start of the effluent test. Once received into the lab, the water is maintained at <6° C until used in a test. Should the water prove to be toxic, it is discarded and subsequent tests run with synthetic moderately hard water.

3. TEST ORGANISMS:
   All organisms used in these tests were from in-house cultures. Routine reference toxicant tests are run to determine sensitivity of offspring. *Ceriodaphnia dubia* were fed a suspension of digested trout chow, yeast and CEROPHYL with supplemental feeding of algae. The *Pimephales promelas* were fed <24 hour old artemia. Both of these organisms were positively identified to species when purchased to begin cultures.

4. FACILITIES, EQUIPMENT AND TEST CHAMBERS:
   Facilities were specifically designed for bioassay testing and culture of test organisms. The two environmental chambers are temperature controlled at 25° C ± 1° C. All equipment which comes in contact with the test fluid is as specified in EPA-821-R-02-013. The water system in the laboratory provides high quality deionized water which is used to make the moderately hard water used in culture, holding and acclimation functions. This water would also be used in the test if the receiving water proved unsuitable. Sample containers, test vessels and any other equipment (deemed to be reusable) which come in contact with the effluent must be prepared after use as follows:

   a. Soak 15 minutes, and scrub with detergent in tap water.
   b. Rinse twice with tap water.
   c. Carefully rinse with fresh dilute (20% V:V) hydrochloric acid to remove scale, metals and bases.
   d. Rinse twice with tap water.
   e. Rinse once with full strength acetone to remove organic compounds.
   f. Rinse well with tap water.
   g. Rinse twice with dilution water.

5. CHEMICAL AND PHYSICAL ANALYSIS:

Routine chemical and physical analyses are conducted on culture, holding, acclimation and dilution waters as well as on effluents to be tested. All such tests required by EPA protocol are conducted as a minimum. Instruments used for these analyses are routinely calibrated to manufacturer's specifications as well as checked against EPA suggested standards.

6. DILUTION WATER:

Dilution water for the test will be receiving water unless it has been tested as unsatisfactory, then synthetic fresh water will be used.

7. TEST CONDITIONS:

The physical and chemical parameters of the test were monitored at the start of the test and daily during the test to insure that none of these would affect the test end points.

8. TEST ACCEPTABILITY:

a. The toxicity test control (0% effluent) must have a survival equal to or greater than 80 % to be considered valid.

b. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.

c. The minimum mean dry weight of surviving *fathead minnow* larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larvae or greater.

d. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for; the young of surviving females in the *Ceriodaphnia dubia* reproduction test, *fathead minnow* growth test; and *fathead minnow* survival test.

e. The percent coefficient of variation between replicates shall be 40% or less in the 42.6% effluent concentration for; the young of surviving females in the *Ceriodaphnia dubia* reproduction test, *fathead minnow* growth test; and *fathead minnow* survival test.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Indianapolis

OFFICE MEMORANDUM

DATE: March 10,1997

TO: Catherine Hess
NPDES Supervisor (Municipal)
Permits Section

THRU: A.B. Jumawan Jr.

FROM: Gurdeo S. Sondhe GSondh
Modeling and Engineering Services Section

SUBJECT: Wasteload Allocation Analyses (WLA) update for the following facilities in the Hamilton County City of Noblesville, Town of Fishers and City of Carmel

This is in response to a request from Mr. Donald B. Larson of Commonwealth Engineers, Inc., the staff has reviewed December 1985 WLA Report and its revision and modifications due to changes in design flow(s) of the facilities. Facilities involved were in process of finalizing their design flows or treatment processes as discussed/reported in a 1978 study conducted by **Indiana Heartland Coordinating Commission (IHCC) under IHCC 208 Area Wide Water Quality Management Plan**. Modeling staff conducted a detailed instream water quality simulation study of the **West Fork of White River (receiving stream for the above facilities)**, using a calibrated and verified QUAL2EU (by IHCC) model. Simulation results were used as interim effluent limitations by the facilities during construction phase of treatment plants. After the completion and commission of the upgraded plants, interim effluent limitations were replaced by final effluent limitations which were developed by using calibrated/verified QUAL2EU model for West Fork of White River. Data/information were taken from the intensive water quality survey conducted by IDEM in 1983, along with data/information supplied by the consultant.

This WLA analyses are also performed/conducted due to revisions and **passage of IC 13-7-7-6-(a,b), 327 IAC 2-1-8.8, 327 IAC 5-3-4.1 and 327 IAC 5-10-3 in or after 1990 and** revision of ammonia toxic criteria by the U.S. EPA in January 1996. The resulting effluent limitations will be used in re-issuance of NPDES permits for the respective facilities.

The receiving waterbody - West Fork of White River for the above mentioned facilities, starting from upstream of Noblesville in Hamilton County up to Nora, Indianapolis, is covered under Rule 327 IAC 2-1 and **designated for warm water species**, and classified for general use, including the protection of aquatic life. The concentration of dissolved oxygen shall average at least 5.0 mg/l per calendar day and shall not be less than 4.0 mg/l at any time.

The brief description of facilities discharging along the segment considered in the receiving waterbody are given below:

Public Service Company of Indiana (PSI), Noblesville:

The wastewater treatment facility is a Class ASO industrial plant, classified in accordance with 327 IAC 8-12, Classification of Water and Wastewater Treatment Plant. The Noblesville Generating Station is a coal-fired, steam electric utility with a combined capacity of 106 MW, now used as a peaking facility and generate electricity during peaking month(s) or period. The plant capacity factor is around 5% which include several months of no generation period. Condenser cooling water, during operation, is withdrawn from discharged back into the service reservoir (Outfall No. 001). This outfall also contains discharge from intake screen backwash, boiler blowdown and noncontact cooling water. The maximum condenser cooling water intake rate is 80,000 gpm. Cooling water may be discharged directly to West Fork of White River from outfall 001 or may be partially diverted to recalculating cooling towers to help **meet temperature limitations.** Outfall 002 is the discharge from the settling pond, which receives coal pile runoff. Flows from these outfalls are periodic and intermittent, however, there is always some minimal insignificant discharge. Sanitary wastewater is treated separately by on-site septic-absorption system. The facility NPDES Permit No. IN 0002801, expired on July 31, 1994 with reporting or monitoring flows at both outfall 001 and 002, where as, outfall 002 has additional effluent limitations of TSS (30 mg/l ave, 100 mg/l max) monthly average (year-round) . Thermal effluent requirements are to be met at Outfall 001.

As flow from the facility is intermittent, therefore, higher instream mixed temperature of 81^{o}(F) instead of 77^{o}F was selected for instream water quality simulation by QUAL2EU. **The Q7,10 flow of the West Fork of White River d/s of PSI Plant and upstream of Noblesville WWTP is 82 cfs.**

City of Noblesville

Noblesville WWTP is a Classs IV, 5.0 mgd (upgraded in 1993 from 2.3 mgd), activated sludge facility with single stage nitrification and effluent chlorination/dechlorination facilities. The City has 60 % sanitary sewer collection system. This plant can be operated in the contact stabilization mode. **The receiving stream** of the facility discharge is **West Fork of White River** which has 82.0 cfs $Q_{7,10}$ flow.

The facility NPDES Permit No. IN 0029168, expired on July 31, 1995, 1991 with the following (summer/winter) monthly average effluent limitations: BOD_5 = 25/25 mg/l, TSS = 30/30 mg/l, and Ammonia-N = 5.5/8.1 mg/l, respectively. According to the **1993 Municipal STP Data Digest** and review of MRO data from May 1992 through November 1996 indicated that facility is meeting existing NPDES effluent limitations.

Town of Fishers

Currently, the Town of Fishers operates two treatment plants at different and are discussed below.

Fishers - North WWTP (Smock Creek Plant) is a Class III, 1.65 mgd (upgraded in 1992 from 1.1 mgd), activated sludge facility with effluent chlorination/dechlorination facilities with. The collection system is 100% separate sanitary system with no overflows or bypasses. The facility NPDES Permit No. IN 0040011, expired on May 31, 1996, with the following (summer/winter) monthly average effluent limitations: BOD_5 = 25/25 mg/l, TSS = 30/30 mg/l, and Ammonia-N = 1.5/3.0 mg/l (treatability limits), respectively.

Fishers - South WWTP (Cheeny Creek Plant) is a Class III, 1.0 mgd (completed in 1994), activated sludge facility with nitrification with ultraviolet light distinction facilities. The facility NPDES Permit No. IN 0055484, will expire on August 31, 1998, with the following (summer/winter) monthly average effluent limitations: BOD_5 = 16/25 mg/l, TSS = 20/30 mg/l, Ammonia-N = 1.5/2.8 mg/l, and effluent D.O. = 4.0 mg/l (year-round), respectively.

The West Fork of White River has a $Q_{7,10}$ flow of 94.0 cfs. This $Q_{7,10}$ flow includes upstream flows from Noblesville WWTP, Cicero Creek and Stony Creek.

Commonwealth Engineers, Inc., consultant to the Town of Fishers, has submitted plan and specifications to the Facilities Construction Section for the proposed expansion of Fishers-South WWTP (Cheeny Creek Plant) and decommission or discontinuation of Fisher North WWTP (Smock Creek Plant). Flow from the north plant will be diverted to the Fisher-South Plant. Projected design flow for the upgraded/expanded plant will be 3.9 mgd.

Therefore, proposed expansion of the Fisher South plant and decommissioning of Fishers-North WWTP is the main basis for these WLA analyses.

City of Carmel

Carmel WWTP is a Class IV, 12.0 mgd (upgraded in 1992 from 8.88 mgd), activated sludge facility with a polishing pond and effluent chlorination. The City has 100 % sanitary sewer collection

system. The facility NPDES Permit No. IN 0022497, expired on August 31, 1994, with the following (summer/winter) monthly average effluent limitations: $tBOD_5$ = 20/30 mg/l, TSS = 20/30 mg/l, Ammonia-N = 1.5/3.0 mg/l, and effluent D.O = 4.0 mg/l (minimum daily), respectively. According to the **1993 Municipal STP Data Digest** and review of MRO data from May 1992 through November 1996 indicated that facility is meeting existing NPDES effluent limitations with some minor ammonia N violations. **The receiving stream of the City of Carmel is West Fork of White River, which has 100.0 cfs $Q_{7,10}$ flow. This $Q_{7,10}$ flow includes upstream flows from City of Noblesville, Cicero Creek, Stony Creek and proposed expansion of Fishers-South plant.**

The **U.S. EPA Simplified** steady-state mathematical water quality model was used to simulate instream D.O. water quality along with already calibrated and verified **QUAL2EU model. West Fork of White River segment from Noblesville up to Nora** used in the previous wasteload allocation studies was also revised with new flow conditions of the receiving stream and facilities. The specific **biochemical oxidation rates** for the carbonaceous (K_1), nitrogenous (K_3) and benthic (S_b) material, hydraulic parameters and the appropriate reaeration equation(s) and instream water quality data used in this analysis were all derived from the December 1989 WLA Report and subsequent modification/revision of reports and related memos of above the facilities.

Reachend water qualities at Nora simulated by simplifies steady state model and QUAL2EH model were compared. Respective reachend Water Quality parameters (BOD5, Ammonia-N and instream D.O.) varied between 1% to 3% indicating that both models are comparable under steady state conditions without photosynthesis-respiration parameters.

Based on the criteria established in WQ Rules **327 IAC 2-1-6(b)(a)(2),** US EPA HQ Revised ammonia-N Tables (January 1996) and present best available information/data, the updated analyses results are shown in attached **Tables 1 through 11.**

Updated (cBODu and NODu) total summer BODu effluent loadings for respective facilities are some what less stringent due to increase in $Q_{7,10}$ flows, therefore, **Rule 327 IAC 5-2-10(11)** should be consulted.

This WLA Report will supersede previous report(s).

GSS/gss
Attachments:

ATTACHMENTS: **WLA Analyses - Effluent Limitations Tables For**

Tables	1 & 1A	Noblesville WWTP
Tables	1B & 1C	Fisher-South WWTP
Tables	1D & 1E	Carmel WWTP

Summer - Stream Water Quality Simulation By Segment

Table	2	Segment 1	White River D/S of Noblesville - Cicero Creek Effluent Point Source - Noblesville WWTP
Table	2A	Segment 2	Cicero Creek - Stony Creek
Table	2B	Segment 3	Stony Creek up to Town of Fishers
Table	2C	Segment 4	White River D/S of Fishers - Carmel Effluent Point Source - Fishers-South WWTP
Table	2D	Segment 5	White River D/S of Carmel - Nora Indianapolis Effluent Point Source - Carmel WWTP

Winter - Stream Water Quality Simulation By Segment

Table	2W	Segment 1	White River D/S of Noblesville - Cicero Creek Effluent Point Source - Noblesville WWTP
Table	2AW	Segment 2	Cicero Creek - Stony Creek
Table	2BW	Segment 3	Stony Creek up to Town of Fishers
Table	2CW	Segment 4	White River D/S of Fishers - Carmel Effluent Point Source - Fishers-South WWTP
Table	2DW	Segment 5	White River D/S of Carmel WWTP - Nora

Table 3	QUAL2EU WQ Simulation Run - West Fork of White River Segment From Noblesville to Nora
Table 4	Facilities Served by WF of White River Segment
Table 5	Q7,10 calculations u/s of Fishers-South Plant
Table 6	Stream Reach Survey - White River in Hamilton County
Table 7	Stream Reach Survey - WF of White River From Winchester (Randolph County) to Carmel (Hamilton County)
Table 8	Summer/Winter DMR Data - PSI Noblesville Station
Table 9	Summer/Winter MRO Data - Noblesville WWTP
Table 10	Summer/Winter MRO Data - Carmel WWTP
Table 11	Instream WQ data at WQ Monitoring Station WR 280 - White River at Nora, Indianapolis

TABLE: 1 | **RESULTS OF EFFLUENT LIMITATION ANALYSIS**

FACILITY CITY OF NOBLESVILLE / EXISTING PLANT / HAMILTON COUNTY

Facility Is In Non-GLI AREA | G.S. sondhe 06-Mar-97 08:58:17

RECEIVING WATER(s)	WHITE RIVER / WBASH RIVER		
Water Use Designation	AQUATIC LIFE	WQ Standards : Rule 327 IAC 2-1	
Aquatic Habitat	Warmwater Species	DILUTION RATIO	10.5996

BIO-MECHANICAL TREATMENT FACILITIES

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
PLANT	5.000 mgd	5.000 mgd
Design FLOW	7.750 cfs	7.750 cfs
Daily Average D.O.	5.0 mg/l	4.0 mg/l

Monthly Average (CBOD5 or TBOD5 or BOD5), and TSS

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
CBOD5	25.00 mg/l	25.00 mg/l
TSS	30.00 mg/l	30.00 mg/l

AMMONIA-N Chronic Values	(SUMMER) May thru November	(WINTER) December through April
Based on USEPA HQ Revised Tables July 30, 1992 and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*2.659 mg/l*	*6.698 mg/l*
SIMULATED AMMONIA_N EFFLUENT LIMITS		
Based on EPA-823-N-96-001 & Revised Tables January 1996	*5.462 mg/l*	*6.698 mg/l*

REMARKS:

NPDES Permit No. IN 0020168 Expired on July 31, 1995

	SUMMER	WINTER
cBOD5	25 mg/l	25 mg/l
AMMONIA-N	5.5 mg/l	8.1 mg/l

Design Flow = 5.0 mgd , CLASS IV , (Above Effluent Limitations are after upgrading plant 2.3 mgd to 5.0 mgd)

TABLE: 1A | **TOXIC AMMONIA-N LOAD ALLOCATION ANALYSIS**

FACILITY: CITY OF NOBLESVILLE / EXISTING PLANT / HAMILTON COUNTY

Facility Is In Non-GLI AREA

G.S. sondhe
06-Mar-97 08:58:17

RECEIVING WATER(s): WHITE RIVER / WBASH RIVER

Water Use Designation: AQUATIC LIFE — WQ Standards : Rule 327 IAC 2-1

Aquatic Habitat: Warmwater Species

TREATMENT PLANT DESIGN		FLOW	5.000	mgd
Plant Design		FLOW	7.736	cfs
Headwater	Q7,10	FLOW	82.000	cfs
	DILUTION	RATIO	10.600	
Headwater Flow Used In the Analysis			50.000	%

Stream and Effluent Water Quality Data		SUMMER May - November		WINTER December - April	
Stream Ammonia-N (Monthly)		0.40	mg/l	0.40	mg/l
Upstream	Temperature	27.00	CG	10.00	CG
	pH	8.20		8.10	
EFFLUENT	Temperatue	25.00	CG	15.00	CG
	pH	7.60		7.60	
DOWNSTREAM	*Temperature*	*26.68*	*CG*	*10.79*	*CG*
	pH	8.03		7.97	

Ammonia-N Standards	Un-ionized Ammonia-N	Instream WQS Ammonia-N	Instream WQS Based FACILITY Ammonia-N
SEASON (Ammonia-N Values in mg/l)[Monthly]	Summer/Winter	Summer/Winter	Summer/Winter
Based on USEPA HQ Revised Tables July 30, 1992	*0.0487 (M)*	*0.759 (M)*	*2.659 (M)*
and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*0.0254 (M)*	*1.400 (M)*	*6.698 (M)*
SIMULATED AMMONIA_N EFFLUENT LIMITS			
Based on EPA-823-N-96-001 & Revised Tables January 1996	*0.0773 (M)*	*1.203 (M)*	*5.462 (M)*
	0.0254 (M)	*1.400 (M)*	*6.698 (M)*

75 Percentile Effluent pH and Temperature Determination:

75 Percentile Stream pH and Temperature Determination:

TABLE: 1B

RESULTS OF EFFLUENT LIMITATION ANALYSIS

FACILITY TOWN OF FISHERS / UPGRADING PLANT TO 3.9 mgd CHEENY CREEK)

Facility Is In Non-GLI AREA

G.S. sondhe
06-Mar-97 08:30:40

RECEIVING WATER(s)	WHITE RIVER / WBASH RIVER		
Water Use Designation	AQUATIC LIFE	WQ Standards :	Rule 327 IAC 2-1
Aquatic Habitat	Warmwater Species	DILUTION RATIO	15.5945

BIO-MECHANICAL TREATMENT FACILITIES

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
PLANT	3.900 mgd	3.900 mgd
Design FLOW	6.045 cfs	6.045 cfs
Daily Average D.O.	5.0 mg/l	4.0 mg/l

Monthly Average (CBOD5 or TBOD5 or BOD5), and TSS

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
CBOD5	20.00 mg/l	25.00 mg/l
TSS	24.00 mg/l	30.00 mg/l

AMMONIA-N Chronic Values	(SUMMER) May thru November	(WINTER) December through April
Based on USEPA HQ Revised Tables July 30, 1992 and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*3.310 mg/l*	*8.502 mg/l*
SIMULATED AMMONIA_N EFFLUENT LIMITS		
Based on EPA-823-N-96-001 & Revised Tables January 1996	*6.536 mg/l*	*8.502 mg/l*
NPDES PERMIT Recommended Ammonia-N Effluent Limitations	*2.000 mg/l*	*4.000 mg/l*

REMARKS:

NPDES Permit No. IN 0055484 Will Expire on August 31, 1998. This revision is for Upgrade Request

	SUMMER	WINTER
cBOD5	16.00 mg/l	25.00 mg/l
AMMONIA-N	1.50 mg/l	2.80 mg/l
D.O.	4.00 mg/l	4.00 mg/ll

Design Flow = 1.0 mgd , CLASS III , (Above Effluent Limitations are prior to upgrade to 3.9 mgd plant)

TABLE: 1C

TOXIC AMMONIA-N LOAD ALLOCATION ANALYSIS

FACILITY: TOWN OF FISHERS / UPGRADING PLANT TO 3.9 mgd CHEENY CREEK)

Facility Is In Non-GLI AREA

G.S. sondhe
06-Mar-97 08:30:40

RECEIVING WATER(s): WHITE RIVER / WBASH RIVER

Water Use Designation: AQUATIC LIFE — WQ Standards : Rule 327 IAC 2-1

Aquatic Habitat: Warmwater Species

TREATMENT PLANT DESIGN		FLOW	3.900	mgd
Plant Design		FLOW	6.034	cfs
Headwater	Q7,10	FLOW	94.100	cfs
	DILUTION	RATIO	15.594	
Headwater Flow	Used in the Analysis		50.000	%

Stream and Effluent Water Quality Data		SUMMER May - November	WINTER December - April
Stream Ammonia-N (Monthly)		0.40 mg/l	0.40 mg/l
Upstream	Temperature	26.00 CG	10.00 CG
	pH	8.20	8.10
EFFLUENT	Temperatue	25.00 CG	15.00 CG
	pH	7.60	7.60
DOWNSTREAM	*Temperature*	*25.89 CG*	*10.57 CG*
	pH	8.07	8.00

SEASON	*Ammonia-N Standards* (Ammonia-N Values in mg/l)[Monthly]	Un-ionized Ammonia-N Summer/Winter	Instream WQS Ammonia-N Summer/Winter	Instream WQS Based FACILITY Ammonia-N Summer/Winter
Based on	*USEPA HQ Revised Tables July 30, 1992*	*0.0487 (M)*	*0.731 (M)*	*3.310 (M)*
	and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*0.0254 (M)*	*1.321 (M)*	*8.502 (M)*
SIMULATED AMMONIA_N EFFLUENT LIMITS				
Based on EPA-823-N-96-001 & Revised Tables January 1996		*0.0732 (M)*	*1.097 (M)*	*6.536 (M)*
		0.0254 (M)	*1.321 (M)*	*8.502 (M)*

75 Percentile Effluent pH and Temperature Determination:

75 Percentile Stream pH and Temperature Determination:

TABLE: 1D

RESULTS OF EFFLUENT LIMITATION ANALYSIS

FACILITY: CARMEL WWTP / EXISTING PLANT DESIGN FLOW = 12 MGD)

Facility Is In Non-GLI AREA

G.S. sondhe
06-Mar-97 09:02:09

RECEIVING WATER(s)	WHITE RIVER / WBASH RIVER		
Water Use Designation	AQUATIC LIFE	WQ Standards :	Rule 327 IAC 2-1
Aquatic Habitat	Warmwater Species	DILUTION RATIO	5.3941

BIO-MECHANICAL TREATMENT FACILITIES

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
PLANT	12.000 mgd	12.000 mgd
Design FLOW	18.600 cfs	18.600 cfs
Daily Average D.O.	5.0 mg/l	4.0 mg/l

Monthly Average (CBOD5 or TBOD5 or BOD5), and TSS

	SUMMER (MAY through NOVEMBER)	WINTER (DECEMBER through APRIL)
CBOD5	20.00 mg/l	25.00 mg/l
TSS	24.00 mg/l	30.00 mg/l

AMMONIA-N Chronic Values

	(SUMMER) May thru November	(WINTER) December through April
Based on USEPA HQ Revised Tables July 30, 1992 and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*2.439 mg/l*	*4.763 mg/l*
SIMULATED AMMONIA_N EFFLUENT LIMITS		
Based on EPA-823-N-96-001 & Revised Tables January 1996	*4.147 mg/l*	*4.763 mg/l*
NPDES PERMIT Recommended Ammonia-N Effluent Limitations	*2.000 mg/l*	*4.000 mg/l*

REMARKS:

NPDES Permit No. IN 0022497 Expired on August 31, 1994

	SUMMER	WINTER
tBOD5	20.00 mg/l	30.00 mg/l
AMMONIA-N	1.50 mg/l	3.00 mg/l
D,O.	4.00 mg/l	4.00 mg/l

Design Flow = 12.0 mgd, CLASS IV, (Fimal effluent limitations After upgrade)

TABLE: 1E

TOXIC AMMONIA-N LOAD ALLOCATION ANALYSIS

FACILITY: CARMEL WWTP / EXISTING PLANT DESIGN FLOW = 12 MGD)

Facility Is In Non-GLI AREA

G.S. sondhe
06-Mar-97 09:02:09

RECEIVING WATER(s): WHITE RIVER / WBASH RIVER

Water Use Designation: AQUATIC LIFE — WQ Standards : Rule 327 IAC 2-1

Aquatic Habitat: Warmwater Species

TREATMENT PLANT DESIGN		FLOW	12.000	mgd
Plant Design		FLOW	18.567	cfs
Headwater	Q7,10	FLOW	100.150	cfs
	DILUTION	RATIO	5.394	
Headwater Flow Used in the Analysis			50.000	%

Stream and Effluent Water Quality Data		SUMMER May - November		WINTER December - April	
Stream Ammonia-N (Monthly)		0.40	mg/l	0.40	mg/l
Upstream	Temperature	26.00	CG	10.00	CG
	pH	8.20		8.10	
EFFLUENT	Temperatue	25.00	CG	15.00	CG
	pH	7.60		7.60	
DOWNSTREAM	*Temperature*	*25.73*	*CG*	*11.35*	*CG*
	pH	7.90		7.90	

SEASON	*Ammonia-N Standards* (Ammonia-N Values in mg/l)[Monthly]	Un-ionized Ammonia-N Summer/Winter	Instream WQS Ammonia-N Summer/Winter	Instream WQS Based FACILITY Ammonia-N Summer/Winter
Based on	*USEPA HQ Revised Tables July 30, 1992*	*0.0474* (M)	*0.952* (M)	*2.439* (M)
	and WQ Rule 327 IAC 2-1-6(b)(5)(A)	*0.0255* (M)	*1.580* (M)	*4.763* (M)
SIMULATED AMMONIA_N EFFLUENT LIMITS				
Based on EPA-823-N-96-001 & Revised Tables January 1996		*0.0704* (M)	*1.414* (M)	*4.147* (M)
		0.0255 (M)	*1.580* (M)	*4.763* (M)

75 Percentile Effluent pH and Temperature Determination:

75 Percentile Stream pH and Temperature Determination:

TABLE 2

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT

SUMMER WASTELOAD ALLOCATION ANALYSIS

Treatment Facility	Effluent Point Source - NOBLESVILLE WWTP , a upstream Facility wrt TOWN OF FISI			
County	HAMILTON	*Design Flow of Facility or Stream Flow*	7.7500 cfs	*5.0000*
Receiving Stream(s)	West Fork of WHITE RIVER WHITE RIVER / WABASH RIVER			
Wasteload Allocation Analysis performed by :		G.S. Sondhe	02/14/97	10:33:42

STREAM WATER QUALITY STANDARDS

INSTREAM DISSOLVED OXYGEN = 5.0 mg/l
Ammonia-N Standard is based on the RULE 327 IAC 2-1

HEADWATER AND EFFLUENT WATER QUALITY INPUT DATA

	FLOW cfs	cBODU mg/l	NBODU mg/l	D.O. mg/l	TEMP CG
HEADWATER QUALITY	82.00	8.00	2.00	7.09	27.00
EFFLUENT or TRIBUTARY WATER QUALITY	7.75	57.50	25.70	5.00	25.00
Downstream of FACILITY or Confluence of Tributary and Main Stream	*89.75*	*12.27*	*4.05*	*6.91*	*26.83*

HYDRAULIC CHARACTERISTICS OF THE STREAM BELOW TREATMENT PLANT

VELOCITY - DEPTH OPTIONS:
Exponential Relationship VELOCITY = a*(FLOW)^B DEPTH = c*(FLOW)^d IS USED

OPTION - 3 Exponential Velocity = A*(FLOW)^B Depth = C*(FLOW)^D COEFFICIENTS

A	B	C	D
0.0190	0.6490	0.3390	0.3500

STREAM HYDRAULIC DATA DOWNSTREAM OF STP

VELOCITY ft/sec	DEPTH ft.	SLOPE ft/mile	MANNING'S
0.3518	*1.6359*	1.5000	0.0250

REACH or SEGMENT DATA

	Reach HEAD		Reach END
	262.0000	mile	261.5000 mile
Computational ELEMENT			0.0100 mile

Modeled Reach or Segment No. : 1 WHITE RIVER D/S OF NOBLESVILLE UP TO CICERO CREEK

- JS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: January 3, 1989

TO: Lonnie Brumfield
Permits Section

THRU: Agustin Jumawan
T. P. Chang
Steve Wolfe

FROM: C. J. Song
Modeling Section

SUBJECT: Effluent Limitations for the City of Carmel, the Town of Fishers, The City of Noblesville, and Hamilton-Southeastern Utilities.

This is in response to your request concerning the above subject, which was indicated in the August 18, 1988, memo of Dr. Jumawan to the Modeling Section staff.

In anticipation of a need for the full-scale water quality modeling efforts, we requested the Survey Section to conduct two intensive surveys of the West Fork White River from Noblesville to Nora in June 1988. On August 24-25, 1988, an intensive survey was conducted; and on August 31 and September 1, 1988, an reaeration study was completed. Because of the stream conditions, the second survey will not be conducted until next summer.

For the planning purposes of the City of Carmel and the Hamilton Southeastern Utilities, a preliminary QUAL-2E stream quality routing model was constructed using the data obtained in the August 1988 IDEM survey and the results of the USGS time of travel study, which was shown in the 1978 IHCC 208 report. Based on the existing and the proposed water quality standards, the half-streamflow mixing zone policy for analyzing chronic ammonia toxicity, and the preliminary stream quality model, the attached Table presents the likely effluent limitations for the known existing and proposed dischargers in the West Fork White River basin from Noblesville to Nora.

CJS

Attachment

cc: C. B. Bardonner

MONTHLY AVERAGE EFFLUENT LIMITATIONS

	CARMEL	FISHERS	NOBLESVILLE	HAMILTON S.E.
SUMMER:				
FLOW (mgd)	12.0	1.1	2.3	7.5
$TBOD_5$ (mg/l)	20.0	20.0	30.0	20.0
AMMONIA-N (mg/l)	1.5	1.5	7.2	1.5
DO (mg/l)	4.0	4.0	3.0	4.0
WINTER:				
FLOW (mgd)	12.0	1.1	2.3	7.5
$TBOD_5$ (mg/l)	30.0	30.0	30.0	30.0
AMMONIA-N (mg/l)	3.0	3.0	7.6	3.0
DO (mg/l)	4.0	4.0	3.0	4.0

12/29/88

DESIGN SUMMARY
HAMILTON-SOUTHEASTERN UTILITIES WASTEWATER TREATMENT FACILITTY
HAMILTON COUNTY, INDIANA

Receiving Stream - Discharges to West Fork of White River. Indicated stream uses are for agriculture, recreation and fish wildlife.

Remarks:

Hamilton-Southeastern Utilities, Inc., plans to provide sanitary service to the following three areas: 1) Hamilton-Southeastern Utilities Certificate of Territorial Authority (CTA); 2) Brooks Creek CTA; and 3) a portion of the Fishers Service area. Appendix 1 shows the overall region that will be served by the Hamilton-Southeastern Utilities treatment facility.

Planned residential and commercial development will be served by the regional facility. In these areas, an average of 700 single family residences per year are projected for construction. (400 residential units per year in the Brooks Creek CTA + 300 residential units per year in the Hamilton-Southeastern CTA and portion of Fishers Service Area.) Eventually, 21,000 family units (in 30-year build-out period) will be constructed.

In order to keep space requirements to a minimum and generate a high quality effluent, an activated sludge nitrification process is recommended that would employ fine bubble air diffusion. In addition, it is recommended that disinfection be accomplished by ultraviolet radiation so as to eliminate the need for chlorination and dechlorination.

A three-phased construction/expansion plan for the wastewater treatment facility is proposed with the initial design flow of 2.5 MGD. A second-phase design flow of 5 MGD and a third-phase (ultimate) design flow of 7.5 MGD.

The phase 1 plant would consist of 2.5 MGD fine activated sludge nitrification process with ultra-violet disinfection. The proposed plant units include bar screens, fine screens, grit chamber, two (2) aerobic digestors, six (6) activated sludge aeration tanks, two (2) secondary clarifiers, ultraviolet disinfection, waste-activated sludge thickener, mechanically sludge dewatering device, and a control building. See Figure 3.

Prepared by
HNTB
8/4/88

COMMONWEALTH ENGINEERS, INC.
ENVIRONMENTAL ENGINEERS & CONSULTANTS

February 9, 1988

Mr. Charlie Bardonner, P.E., Assistant Commissioner
Indiana Department of Environmental Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, Indiana 46206-6015

RE: Carmel, Indiana
Load Allocation

24 mgl @ 1164 lbs/day

Dear Mr. Bardonner:

The City of Carmel due to proposed changes in its NPDES Permit requirements for nitrification and accelerated growth, is considering improvement and expansion of its wastewater treatment plant as soon as possible.

(1) Accordingly, on behalf of the City of Carmel, we are requesting a new load allocation to determine our effluent requirements based upon a 12 MGD capacity. In addition, with the recent (2) announcement of a proposed water treatment plant by Indianapolis Water Company upstream of our wastewater plant, we wish to know the potential impact on our effluent requirements.

The City appreciates your assistance. Please feel free to contact me at 872-1177 if I may be of any assistance to you.

Very truly yours,

COMMONWEALTH ENGINEERS, INC.

Donald R. Silvey

Donald R. Silvey, P.E.

CC: Honorable Dorothy J. Hancock, Mayor
T. P. Chang, Technical Support Branch, IDEM

710 Executive Park Drive
P.O. Box 406
Greenwood, Indiana 46142

8770 Guion Road
Suite P
Indianapolis, Indiana 46268